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PUBLIC UTILITIES FORTNIGHTLY

Greetings EEI Convention

JUNE 5, 1947

YOUNGER MEN ARE NEEDED FOR INDUSTRIAL LEADERSHIP! — *Grover C. Neff*

WANTED: A NATIONAL POWER PROGRAM — *Nelson Lee Smith*

IT IS NOT IN THE CARDS — *Frank McLaughlin*

POWER AND LIGHT SECURITIES — *William W. Bodine*

THE RÔLE OF PLANNED LIGHTING — *Ralph P. Wagner*

NATIONAL DEFENSE FOR AMERICAN INDUSTRY — *W. C. Mullendore*

A CHEMURGY PROGRAM FOR POWER! — *Ralph E. Gale*

THE ELECTRIC HEAT PUMP — *Charles Tatham, Jr.*

PUBLIC UTILITIES REPORTS, INC., PUBLISHERS

XUM

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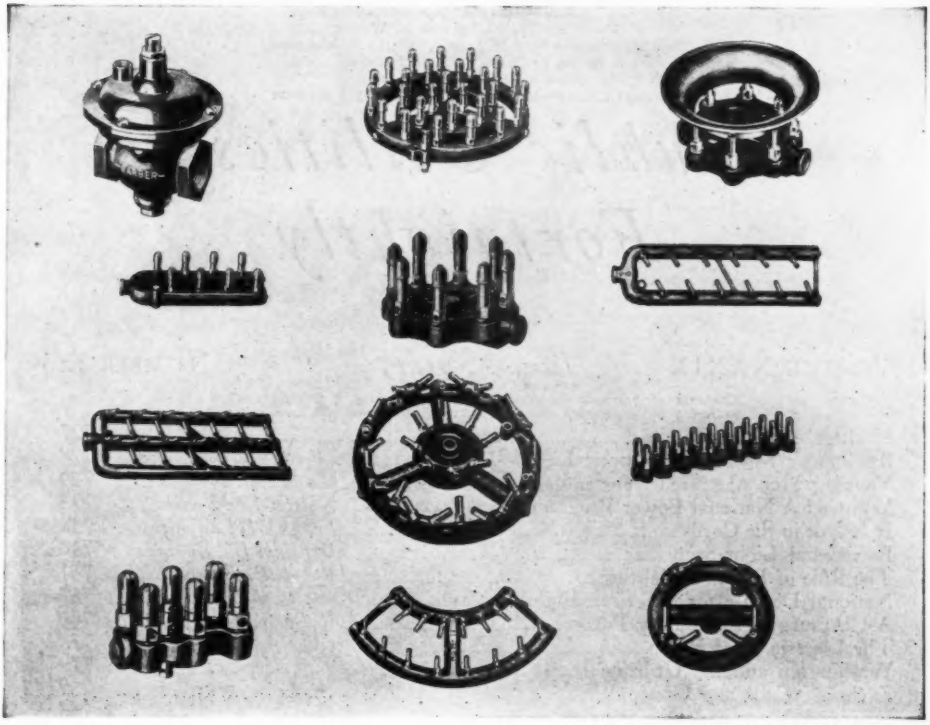

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Public Utilities Fortnightly

VOLUME XXXIX *June 5, 1947* NUMBER 12

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¶ *This magazine is an open forum for the free expression of opinion concerning public utility regulation and allied topics. It is supported by subscription and advertising revenue; it is not the mouthpiece of any group or faction; it is not under the editorial supervision of, nor does it bear the endorsement of, any organization or association. The editors do not assume responsibility for the opinions expressed by its contributors.*

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New! THE IRONER *that folds Away!*

Apex FOLD-A-MATIC IRONER

Easy to Demonstrate
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Here is a new home laundry appliance that will soon become an important residential load-builder in every section of the country.

The Apex Fold-a-matic is a standard, 26-inch roll, 1700-watt ironer that folds away into a compact cabinet —36 inches high, 18½ inches wide, 25 inches deep. It is ideally suited to the modern combined kitchen-laundry or can be installed wherever the homemaker finds it most convenient. To use it, she merely opens the cabinet and easily rolls the ironer up and out to operating position.

Introductory demonstrations of this new product have already indicated that its unusual design will stimulate wide consumer interest. Merchandising plans have been prepared to sell it through 14,000 Apex dealers —wherever there are wired homes.

Apex

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THE APEX ELECTRICAL MANUFACTURING CO. • *Cleveland 10, Ohio*

Pages with the Editors

THIS issue of PUBLIC UTILITIES FORTNIGHTLY is scheduled to be mailed to subscribers some days before the gathering of delegates and guests at the annual convention of the Edison Electric Institute at Atlantic City, New Jersey, June 2nd to June 5th. To salute this important event in the annals of the electric utility industry, we have dedicated this issue to the reproduction of a planned group of thought-provoking articles dealing with various matters of special interest to the electric industry. Moreover, we have obtained for this issue contributors of prominence in the field of the industry's operation and regulation.

THE author of the brief leading article appealing for youthful professional and executive participation in the electric industry hardly needs an introduction to the readers of these pages. He is GROVER C. NEFF. Born in Milford, Indiana, MR. NEFF graduated as an engineer (BS, '07) from Purdue and in 1908 joined the Southern Wisconsin Power Company. He spent his entire professional career as an executive with various Wisconsin properties which were formerly grouped under the Middle West Utilities system. For the past year he has been president of the Edison Electric Institute and since 1933 president of the Wisconsin Power & Light Company, Madison, Wisconsin.

GROVER C. NEFF

© *Harris & Ewing*

NELSON LEE SMITH

* * * *

NELSON LEE SMITH, chairman of the Federal Power Commission, whose article on the need of a new national power program begins on page 732, was born in Baltimore in 1899 and educated at Dartmouth College (AB, '21) and the University of Michigan (PhD, '28). He joined the Dartmouth faculty in 1921, rising to the post of professor of economics from 1934 to 1937. He was a member of the New Hampshire Public Service Commission from

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1847 - THOMAS A. EDISON CENTENNIAL - 1947

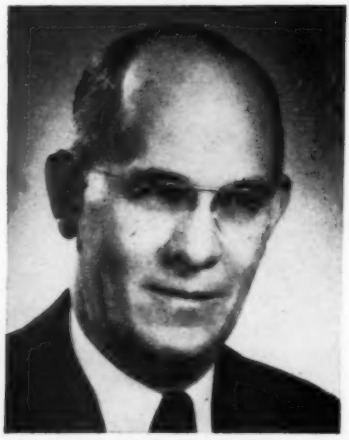
1933 to 1941, and was appointed to the Federal Power Commission in 1943, being renominated for a full term in 1945. He was elected chairman of the commission in December, 1946.

* * * *

FRANK MCLAUGHLIN, author of the article dealing with the incompatibility of public ownership competition with business electric company operations, was born in Hingham, Massachusetts, in 1895, educated at Brown University, and joined the Stone & Webster organization as an office boy in Boston in 1912. He served as an official in various electric companies of the Stone & Webster organization—Providence, Rhode Island, Beaumont, Texas, El Paso, Texas, Baton Rouge, Louisiana, Richmond and Norfolk, Virginia. He became president and director of the Puget Sound Power & Light Company in Seattle in 1931 and has held that post ever since.

* * * *

ANOTHER Pacific coast utility executive with a long record of industrial activity is W. C. MULLENDORE, author of the inspiring patriotic article dealing with the national defense of American industry (beginning page 757). Born in Howard, Kansas, in 1892 and educated at the University of Michigan (AB, '14; JD, '16), MR. MULLENDORE came to Washington, D. C., as an attorney with the U. S. Food Administration during World War I. In 1922



RALPH P. WAGNER

FRANK MCLAUGHLIN

he became assistant to the then Secretary of Commerce, Herbert Hoover, but in the following year went to Los Angeles as special counsel for the Southern California Edison Company. He became president of that organization in 1945.

* * * *

WILLIAM W. BODINE, whose article on "Power and Light Securities" begins on page 746, will be more readily recalled to readers of this publication, perhaps, for his long service with the United Gas Improvement Company since 1919. MR. BODINE was born in Philadelphia in 1887, attended Harvard College (AB, '09) and the University of Pennsylvania (LL B, '14). He is at present vice president and trustee of the Penn Mutual Life Insurance Company of Philadelphia.

* * * *

RALPH P. WAGNER, author of the article on planned lighting (beginning page 751), is commercial manager of the New York Power & Light Corporation, Albany, New York, and chairman of the commercial division general committee, Edison Electric Institute.

THE next number of this magazine will be out June 19th.

The Editors

"Controllable Costs"

AND HOW THEY AFFECT YOUR COMPANY'S PROGRESS

Controllable costs are potential profits. They are dollars that could hit the happy side of the balance sheet except for waste and inefficiency.

"Controllable Costs" is also a very pertinent title for record systems grown old and antiquated.

For years, the Electric Power Industry's operating systems have been expedited by some of the finest record systems and accounting methods ever devised for public utilities. Working with Electric Power executives, Remington Rand—world's largest researcher and producer of business systems—designed the basic control methods that have touched almost every activity of the Electric Power Industry.

With these systems and methods went Remington Rand equipment... tabulating and calculating machines, typewriters, indexing systems, fire-resistant files and safes, bookkeeping machines, and Kardex, the signalled visible record system.

Together, the Electric Power Industry and Remington Rand provided methods that cut deep into the cancer of "uncontrolled" costs. Today, with the profit-spread squeezed to its minimum margin, we are again searching beneath the surface for the untapped profit resources found in Controllable Costs.

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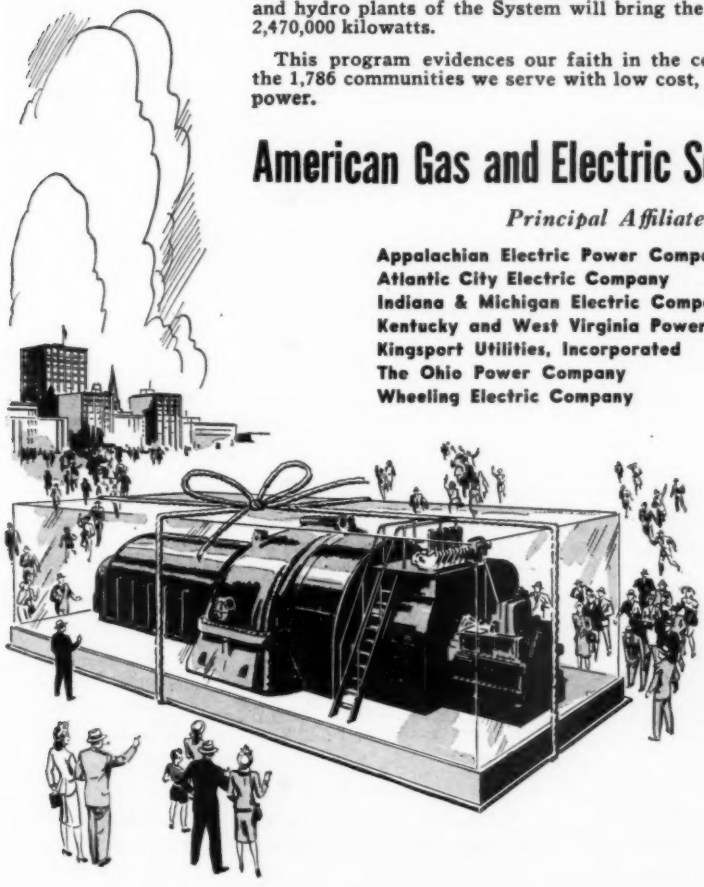
PREPRINTS FROM PUBLIC UTILITIES REPORTS
Various regulatory rulings by courts and commissions reported in full text, pages 33–64, from 68 PUR(NS)

Looking Ahead with Industry

EXTRAORDINARY demands by customers of the companies affiliated in the American Gas and Electric System will require extensive additions to the facilities of these companies. At an estimated cost of nearly $200,000,000, they have embarked on a five-year program to provide new power stations, lines, substations, and distribution facilities to deliver the power required to keep pace with industrial and community development.

Four additional turbo-generators with a total capacity of over 500,000 kilowatts are now under construction and upon their completion, the generating capacity of eight of the major steam plants of the American Gas and Electric System will amount to over 1,900,000 kilowatts. The generating facilities from other steam and hydro plants of the System will bring the total to more than 2,470,000 kilowatts.

This program evidences our faith in the continued growth of the 1,786 communities we serve with low cost, dependable electric power.



American Gas and Electric Service Corp.

Principal Affiliates

Appalachian Electric Power Company
Atlantic City Electric Company
Indiana & Michigan Electric Company
Kentucky and West Virginia Power Company, Inc.
Kingsport Utilities, Incorporated
The Ohio Power Company
Wheeling Electric Company

Remarkable Remarks

"There never was in the world two opinions alike."
—MONTAIGNE

WILBUR J. BRONS
Writing in the Chicago Journal of Commerce.

"Competent economists, bankers, and businessmen have long pointed out that the best guaranty of ultimate world order is an economically healthy United States."

WINSTON CHURCHILL
British Conservative Leader.

"Too long has there been general apathy among businessmen about politics. They must do their duty without delay or face a situation even more serious than the present."

HENRY FORD II
President, Ford Motor Company.

"In this country's rapid rise to industrial supremacy we have concentrated on machines and may have paid too little attention to men. Good human relations have suffered correspondingly."

O. M. HARRELL
District manager, Texas Power & Light Company.

"Only through better public understanding will come the new policies which will help us avoid sharp dips in business activity and employment and bring about continuing economic progress."

RALPH MCGILL
Editor, The Atlanta Constitution.

"What we have in this country is an industrial system based on free contract and voluntary association. We insist that it can and must survive as the best guaranty of freedom and dignity for the individual."

EDITORIAL STATEMENT
Pittsburgh Press.

"It hardly should be necessary to point out that under our system—which is the best man has been able to devise —profits make the wheels go 'round by inspiring the investment of capital in the tools of production."

BENJAMIN H. NAMM
Chairman of the board, Namm's, Inc.

"In the final analysis, whether or not we continue to enjoy a free economy in the United States will depend on the will of the people. Congress is an important factor but every legislative body ultimately reflects the will of the people."

SIR WILLIAM FRASER
Chairman, Anglo-American Oil Company, Ltd.

"Oil now flows in so many ways into the main currents of human activity that it might not be unreasonably urged that the national per capita fuel consumption is in direct relation to the national standard of industrial and agricultural welfare."

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← You Know what this is

but do you know→ that the Guy Guard that FULLY PROTECTS is the new modern

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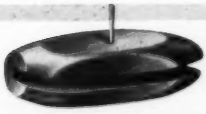
GUY GUARD

SEND FOR FREE SAMPLES and make this test

Overton-Flexibal Guy Guards have been field-tested for years in thousands of locations. Customers who try out this modern guard never go back to the old rigid style. It was specifically developed for one of the largest utilities in the country. But you need not take the many recommendations on faith — you can actually find out for yourself. We will gladly supply you with Overton-Flexibal Guy Guards for testing—at no charge. Install them—now—and draw your own conclusions!



The GUARD that *Gives* with the GUY

Made of hard wood, shaped with rounded contours, aluminum-painted, the 6" spindles which make up the adjustable length of the Overton-Flexibal Guy Guard are literally so many pillows that give with the guy. They cushion the shock; never get out of commission. Boxed for ready installation in any desired length. Immediate shipment. Request your testing samples now.

ASK YOUR PUBLIC

Ask the people upon whom you depend for good-will if Overton-Flexibal Guy Guards are not more attractive, more acceptable in all neighborhoods.

ASK YOUR LAWYER

Inquire into the greater protection offered by Overton-Flexibal Guy Guards. They act like pillows in cushioning the shock.

ASK YOUR MAINTENANCE MEN

Get the reaction of the men who have to do the installing and repairing... ask them if Overton-Flexibal Guy Guards are not the easiest to install, the easiest to handle, the easiest to store, the most resistant to damage of any kind.

ASK YOUR PURCHASING AGENT

Find out how much money the Overton-Flexibal Guy Guard will save you — both in initial cost and in replacement. The P.A. will particularly like the fact that this modern guard is boxed in 5-6-7-8 foot lengths for immediate shipment — no waiting.

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ROBERT R. WASON
President, Manning, Maxwell & Moore, Inc.

"If our peoples projected our faiths in the competitive enterprise that made us, as Communism has pressed its will on poverty-stricken people, this struggle would have been won and liberty in the world would now be certain."

EDMOND E. LINCOLN
Economist, E. I. du Pont de Nemours & Company.

"Steeply progressive personal income taxes have been confiscating moderate and larger incomes, thus consuming the 'seed corn' of economic progress, destroying venture capital, and removing virtually all incentives for risk taking."

EDITORIAL STATEMENT
The Journal of Commerce.

"It is the duty of alert managements to use every means at their disposal to show employees how great is their stake in the well-being of the enterprise for which they work, so as to make industrial relations in truth a 'two-way street.'"

VIRGIL JORDAN
President, National Industrial Conference Board.

"We find American business spokesmen today making constant use of the familiar formula . . . of Communist propaganda, which is to warn the public that, unless certain mild measures of compulsory collectivism are adopted, the country will go Communist."

GEORGE ROMNEY
Managing director, Automobile Manufacturers Association.

"To retain democratic competitive capitalism, collective bargaining relations and labor-management coöperation must rest on the fundamental fact that the greatest area of mutual interest between management and labor exists between the workers and management of each separate enterprise."

ERNEST E. NORRIS
President, Southern Railway System.

"It would seem that everyone would realize that railroads are so much a part of our daily life as a nation that the nationalization of all industry would surely result if the government—through public apathy, political assault, or financial default—gained control or ownership of our railroads."

CHARLES E. WILSON
President, General Motors Corporation.

"The new labor laws being considered must be ethically, morally, and legally sound. At the same time they must be practical, understandable, and enforceable. Only then will they promote industrial peace and encourage the high level of productivity which creates national prosperity—the end we are all striving for."

ERNEST T. WEIR
Director, National Steel Corporation.

"There is abundant evidence that a new and better relationship is desired quite as much by the rank and file workers of the country as by the managements of business firms; that the workers want conditions under which they can produce and earn without the disturbances and losses of time which have been all too frequent."

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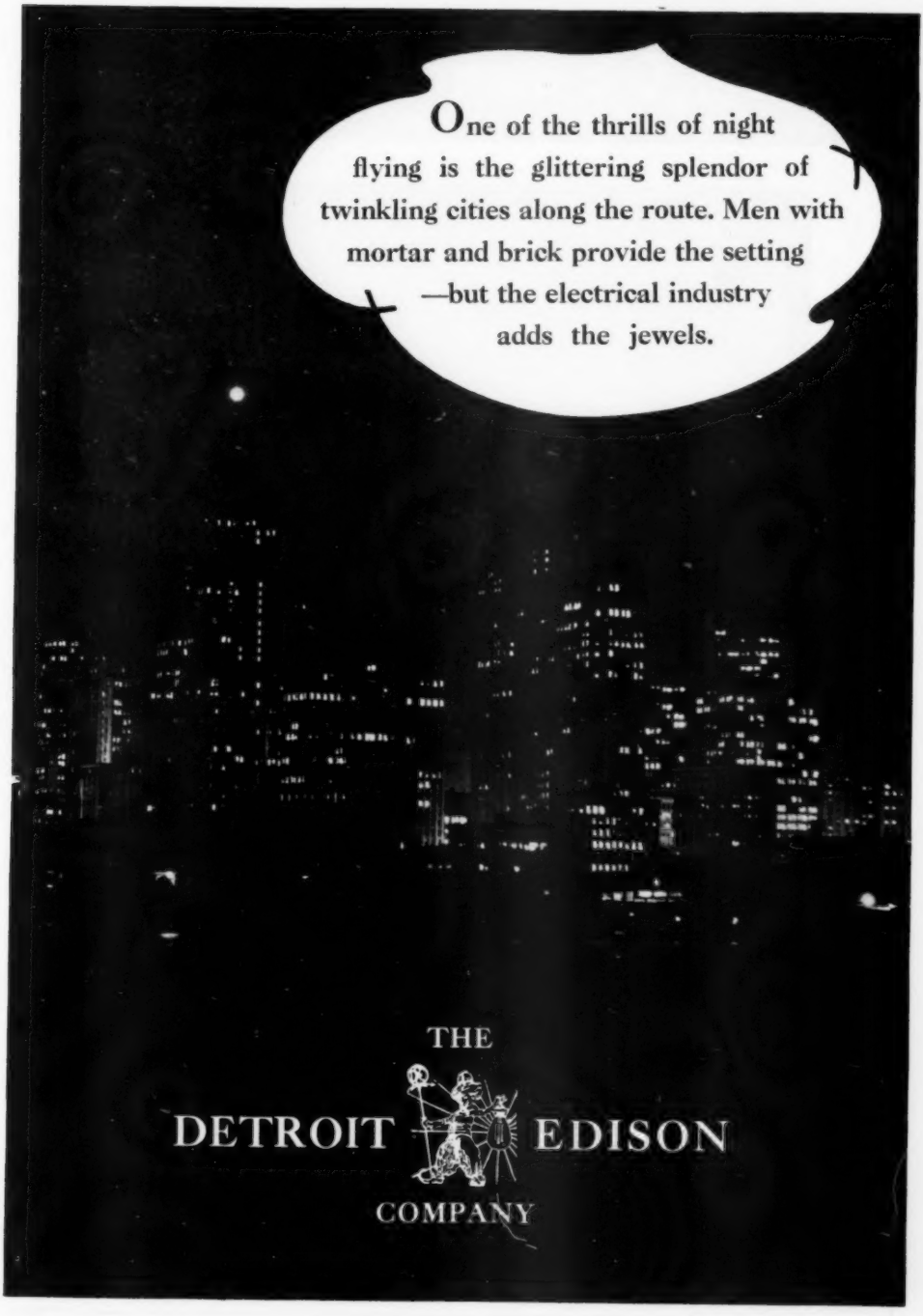
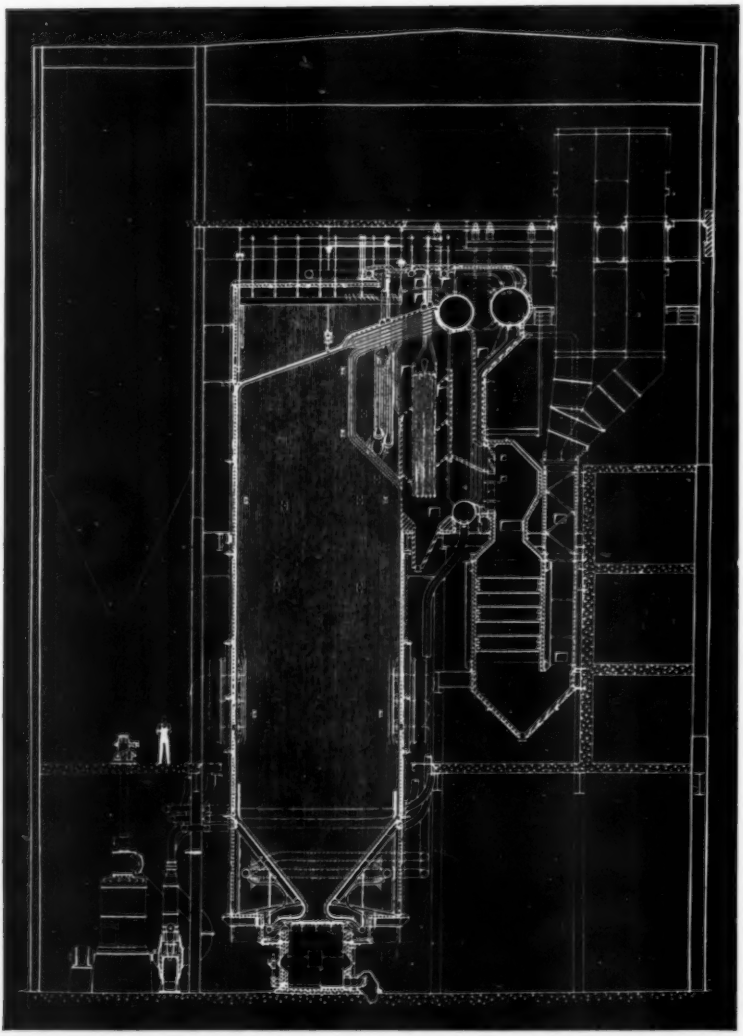

One of the thrills of night flying is the glittering splendor of twinkling cities along the route. Men with mortar and brick provide the setting —but the electrical industry adds the jewels.
THE
DETROIT EDISON
COMPANY

Recent C-E Steam Generating



COMBUSTION

C-E PRODUCTS INCLUDE ALL TYPES OF BOILERS, FURNACES, PULVERIZED FUEL SYSTEMS AND STOKERS; ALSO SUPERHEATERS, ECONOMIZERS AND AIR HEATERS

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Units for Utilities . . .

B. C. COBB STATION

CONSUMERS POWER COMPANY

THE C-E Unit, illustrated here is one of two such units ordered in 1946 for the B. C. Cobb Station of the Consumers Power Company at Muskegon, Michigan. A third unit has recently been ordered.

Each unit is designed to produce, at maximum continuous output, 600,000 lb of steam per hr at 875 psi and a total temperature of 900 F.

The units are of the 3-drum type with 2-stage superheaters. Furnaces are fully water cooled with closely spaced plain tubes and are of the basket-bottom type. C-E economizers and plate-type air heaters follow the boiler surface.

Pulverized coal firing is used employing C-E Raymond Bowl Mills and Vertically-Adjustable, Tangential Burners. This burner arrangement, in conjunction with Montaup-type by-pass dampers, assures accurate control of superheater temperatures. B-129A

C-E

ENGINEERING

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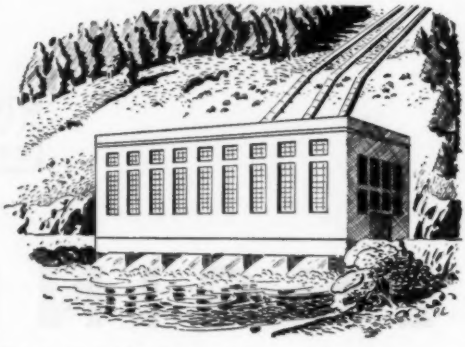
300 Million DOLLARS in NEW POWER PLANTS and Service Installations

California's industrial development before and during the war has become permanent growth—the post-war trend is upward! We are going places in a big way! . . . in industry, payrolls, population and markets.

Immediately after wartime building restrictions were lifted, P.G. and E. began to provide increased service for Northern and Central California to meet new and increased demands for gas and electricity *and to build well ahead* of anticipated growth. In 1946 approximately $45,000,000 was spent toward that end. AND NOW a comprehensive 5-year expansion program has been developed calling for the expenditure of an additional $300,000,000 by the end of 1951.

New power plants will be constructed and others enlarged, adding about 1,000,000 horsepower to P.G. and E.'s power capacity. Also included in the program is a vast systemwide expansion of transmission and distribution facilities.

P.G. and E. will be fully ready to help Northern and Central California grow during the busy years ahead with a power capacity of more than 3,500,000 horsepower.



P·G·and E·

PACIFIC GAS AND ELECTRIC COMPANY PUF21X—647S

YOU CAN SERVE YOUR CUSTOMERS BETTER with a truck like this!

Here's a picture of a *"Job-Rated"* truck . . . a truck that fits its job.

Take a good look at it!

This truck has exactly the right one of 7 Dodge *"Job-Rated"* engines to provide the pulling power the owner needs, with the economy he wants.

It has exactly the right one of 5 Dodge *"Job-Rated"* clutches, 4 transmissions, 18 rear axles . . . the right units throughout . . . for "top" performance with the loads it carries, over the roads it travels. It is completely *"Job-Rated"* to fit its job . . . to last longer, and for dependable, money-saving operation.

YOU, too, can buy a truck that will fit *your* job . . . giving you better performance at lower cost.

To get such a truck, see your Dodge dealer. He will analyze your needs. He will recommend the right truck. He will serve you well . . . including dependable truck service whenever you need it. . . . See or call him today.

DODGE

ONLY DODGE BUILDS *"Job-Rated"* TRUCKS

Fit the Job . . . Last Longer !

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CUMMINS

Announces a new
DUPLEX RECEIPTING PERFORATOR
Model 330

The fastest, most efficient machine ever devised for receipting stub type service bills.

The Cummins 330 is the most durable portable perforator on the market today. Its speed and efficiency are AMAZING! Its controls are POSITIVE!

PERFORATES bill and stub *instantly* and at the same time cuts off stub.

AUTOMATICALLY perforates at ONE STROKE —
- *Date on both bill and stub*
- *Receipting information on bill*
- *Teller and window or office identification on bill and stub*

RECEIPTS and CUTS up to 12 paper bills at one time.

PERFORATES and CUTS up to 5 post card bills at one time.

OPERATES *automatically* when sheets are inserted.

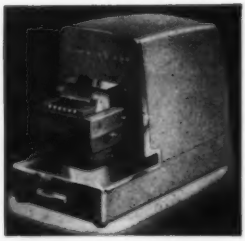
Typical Cummins ruggedness assures years of uninterrupted service.

The Cummins Duplex Receipting Perforator provides the most modern method of handling window payments . . .

Steps up teller's efficiency — no entries to make while customer waits . . . no levers to work . . . no chance for lost stubs.

Always a permanent and uniformly legible perforation — cannot fade, smear, be erased, obliterated, altered or forged — no partial impressions.

No ink to soil customer's hands, gloves or purse.



Cummins 300 Portable Electric — Perfect for receipting mail stubs. Unmatched capacity. Up to 20,000 sheets per hour. Perforates instantly when sheets are inserted.

EASIER FOR CASHIER • MORE CONVENIENT FOR CUSTOMER
COMPLETE CONTROL • MORE ECONOMICAL TO MAINTAIN

For Safety's Sake . . . Perforate

Complete Cashiering Control—FASTER, SURER, EASIER!

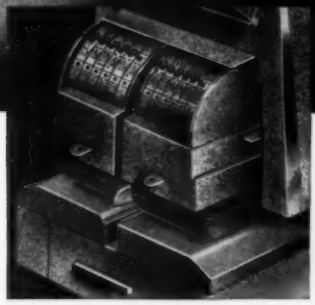
XUM

CUMMINS Leads Again!

Cummins aggressively modern engineering furnishes positive rigorous protection for handling of Utility bills . . . simple and direct adaptation for easy, fast and complete receipting . . . the fastest of modern fast methods.

- Built-in locks give both supervisor and operator proper control.
- Setting of dates and teller numbers protected by keys, controlled by supervisor if desired.
- Cuts and detaches stub simultaneously with perforation — no danger of returning stub to customer with receipt.
- Protects company, cashier and customer.

Originators of Perforators



Model 330 with hood unlocked showing matrix wheels and operator identification matrix keys.

SINCE 1887

CUMMINS BUSINESS MACHINES
Division of A. S. C. CORPORATION • Formerly CUMMINS PERFORATOR
4754 Ravenswood Avenue, Chicago 40, Illinois

Please send me complete information regarding Cummins Duplex Receipting Perforator, Model 330.

Name_____ Title_____

Company_____

Address_____

City_____ Zone_____ State_____

SHIPS

★ ★ ★

HYDRAULIC TURBINES
— and —
ACCESSORY EQUIPMENT

★ ★ ★

PRESSURE VESSELS

★ ★ ★

STEEL, IRON and
BRASS CASTINGS

★ ★ ★

HEAVY FORGINGS—
ROUGH *or*
COMPLETELY MACHINED

★ ★ ★

NEWPORT NEWS SHIPBUILDING and DRY DOCK COMPANY

NEWPORT NEWS,
VIRGINIA

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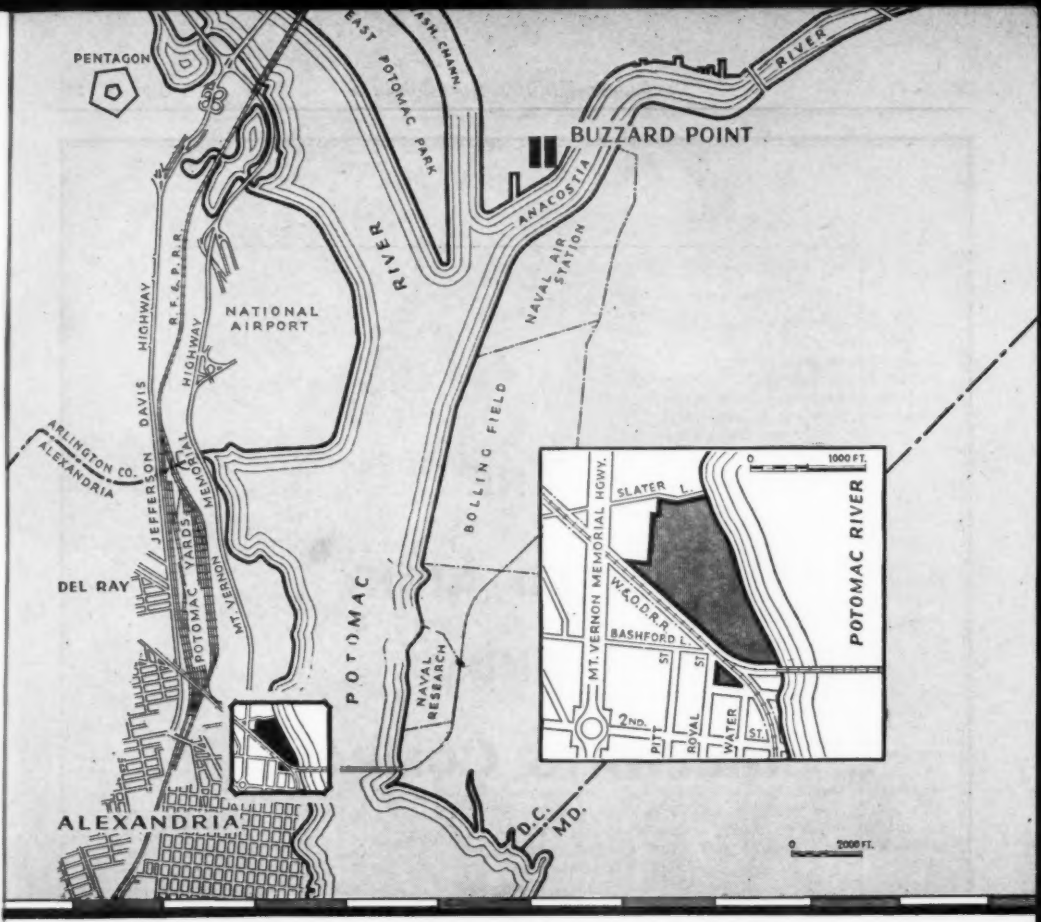


Work Is Started on the Largest Power Generating Plant in the Washington, D. C. Area

Forging ahead to meet increasing demands, Pepco (through its wholly owned subsidiary, Braddock Light & Power Company, Inc.) has started work on a 400,000 kw. capacity steam generating plant—its third in the Washington area. The site selected is on the Potomac River at Alexandria, Virginia.

The initial unit of 80,000 kw. is now under construction and should be ready for operation in the spring of 1949.

This unit will consist of an 80,000 kw., 1800 R. P. M., 850 lbs., 925° total temperature turbo generator and a single pulverized coal fired generating unit of 800,000 lbs./hr. Another of the same size will be installed by fall of 1950.

This is an ambitious project. It is concrete evidence of Pepco's established policy . . . to be ready at all times to supply Washington and the adjacent areas with plenty of low-cost electric service!

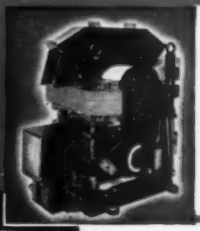
Pepco
Matchless Service

POTOMAC ELECTRIC POWER COMPANY — WASHINGTON, D. C.

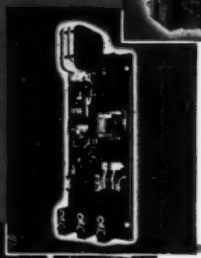
THE UNITED LIGHT AND RAILWAYS COMPANY

5 STEPS IN *Progress*

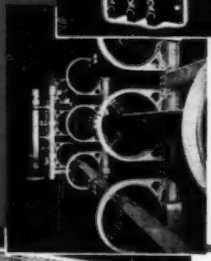
. . . these I-T-E Products



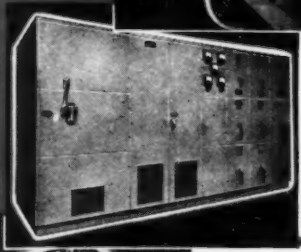
High Speed Circuit Breakers are representative of the wide variety of I-T-E circuit breakers for many applications. The high speed feature makes this circuit breaker ideal for heavy duty in industrial and electric railway service.



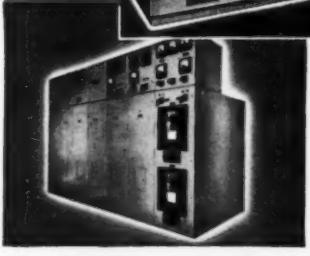
These I-T-E Automatic Reclosing Circuit Breakers open on a fault and remain open until line conditions return to normal, then reclose to continue operations. Properly used to sectionalize feeder circuits, they isolate affected areas and prevent damage elsewhere.



I-T-E Isolated Phase Bus encloses each conductor in an individual metal housing, separates housings by insulating air space. It offers a high degree of protection against phase-to-phase short circuits and gives greater safety and continuity of service. Factory construction makes Isolated Phase Bus adaptable to all building requirements.



In I-T-E Unit Substations, the transformers, primary disconnects, circuit breakers and bus are fully enclosed, unit constructed, in line or arranged to fit the location. The substation can be installed in any practical location—is free from limitations imposed by special building requirements, safety hazards and fire risks.



I-T-E Switchgear, including circuit breakers and associated components will meet the requirements of your power installations. It features independently accessible compartments for easy maintenance and complete enclosure of circuit breakers, transformers, bus structures and instruments, together with mechanized interlocking for proper sequence of operation.

For complete information, write or call:

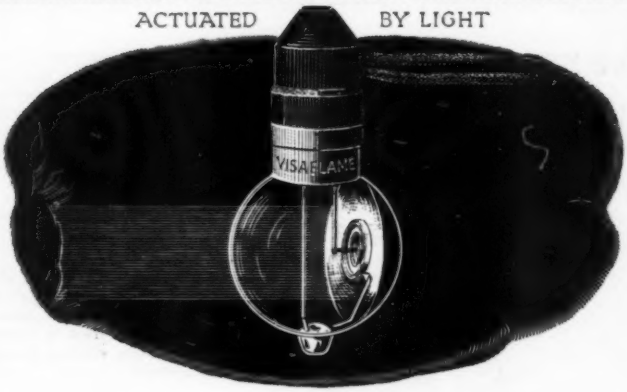
I-T-E CIRCUIT BREAKER CO.

19th and Hamilton Streets Philadelphia 30, Pa.

The center of Switchgear Progress

SWITCHGEAR • UNIT SUBSTATIONS • BUS STRUCTURES • AUTOMATIC RECLOSING CIRCUIT BREAKERS • HIGH SPEED CIRCUIT BREAKERS

ACTUATED BY LIGHT



MERCOID
VISAFLAME

The most advanced Safety Control System for domestic and industrial Oil Burners

Complete information in bulletin No. V-9

THE MERCOID CORPORATION • 4201 BELMONT AVE., CHICAGO, ILL.
Manufacturers of dependable automatic controls for a quarter of a century

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THIS IS OUR INVITATION to INDUSTRY

In our industrial advertising we are inviting new business to Florida with this message:

"JUST PUT YOUR FACTORY DOWN ANYWHERE!"

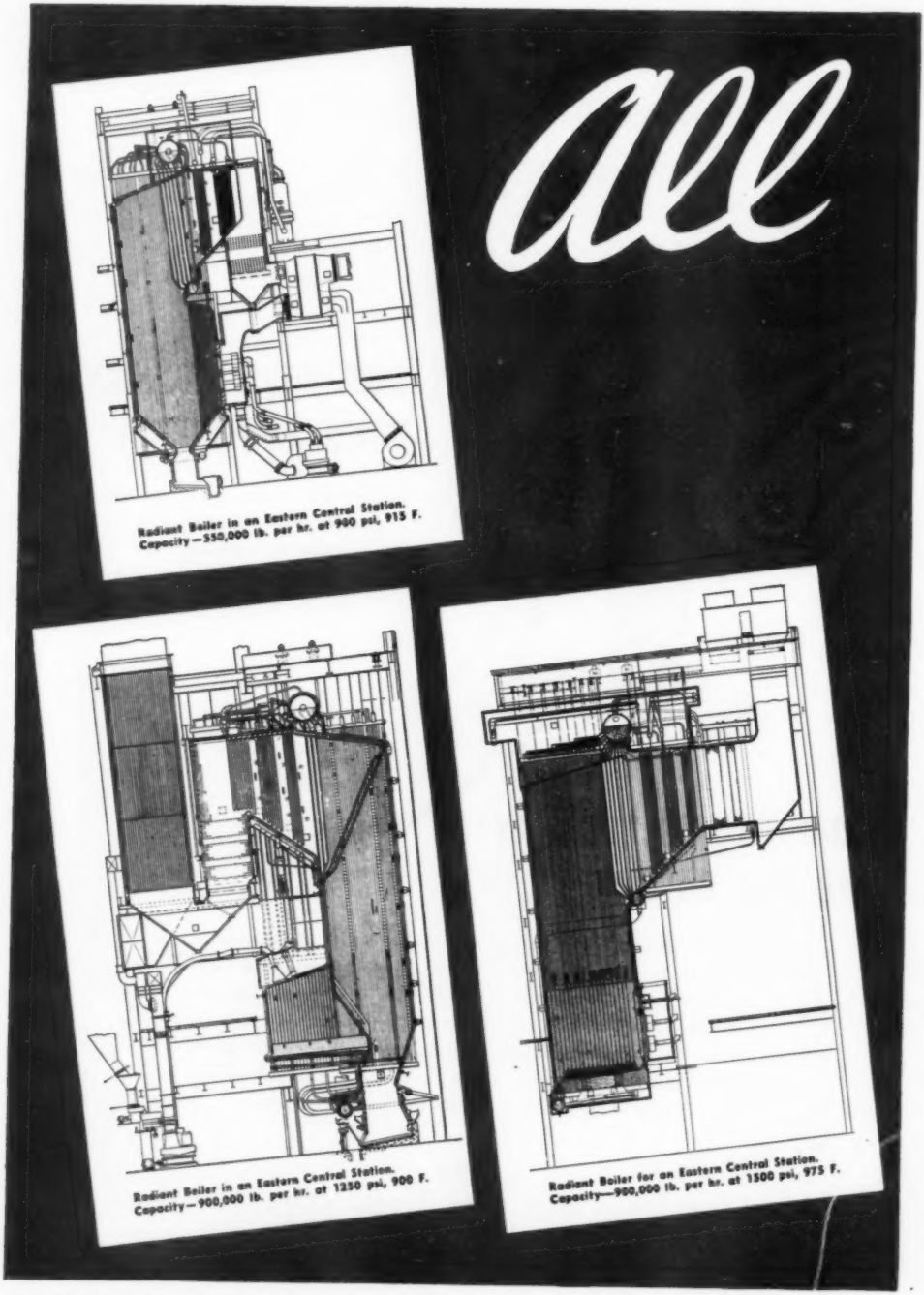
"Locate your plant anywhere along the Florida Power & Light Company's interconnected system. You will be assured of cheap, dependable electric power."

AND THIS IS THE WAY WE ARE BACKING IT UP...

We are saying "More Power to Industry" with an expansion program keyed to the growth of fast-growing Florida. In 1947 alone we are spending $16,500,000 on new construction—completing two new steam-electric plant installations, making numerous changes and improvements, extending rural distribution, constructing new 66 K V lines. It's multi-million dollar evidence of our faith in Florida's future.

FLORIDA POWER & LIGHT COMPANY

HELPING BUILD FLORIDA


all
Radiant Boiler in an Eastern Central Station.
Capacity—550,000 lb. per hr. at 900 psi, 915 F.
Radiant Boiler in an Eastern Central Station.
Capacity—900,000 lb. per hr. at 1250 psi, 900 F.
Radiant Boiler for an Eastern Central Station.
Capacity—900,000 lb. per hr. at 1500 psi, 975 F.

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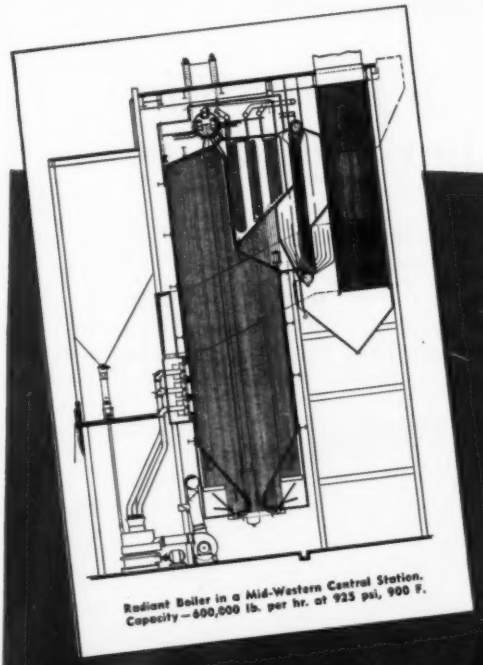
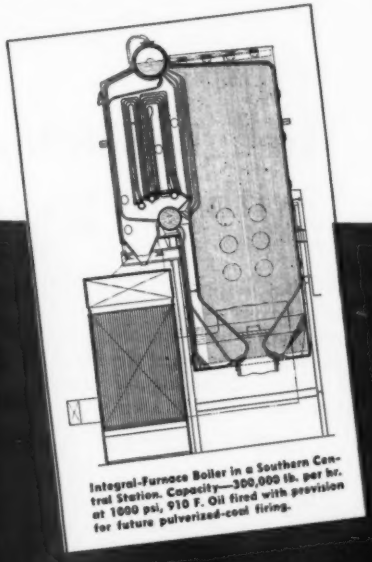
MATCHED TO MODERN NEEDS

IN modern Open-Pass, Radiant, Stirling, and Integral-Furnace Boilers, B&W is providing the central-station industry with time-tested, performance-proved designs for low-cost steam generation over the entire range of present-day requirements. Long, satisfactory experience with these types reflects their high standards of performance as to continuity of service, dependability, overall operating efficiency, adaptability to all types of fuels, and greatest return on investment.

B&W experience in matching boilers to jobs for utmost efficiency and economy covers three times twenty-five years and more. Such experience cannot be written into specifications or shown on blueprints but it is a part of all modern B&W boilers that is contributing to low-cost power production.



Radiant Boiler in a Mid-Western Central Station. Capacity—600,000 lb. per hr. at 925 psi, 900 F.



Integral-Furnace Boiler in a Southern Central Station. Capacity—300,000 lb. per hr. at 1000 psi, 910 F. Oil fired with provision for future pulverized-coal firing.

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.
GENERAL OFFICES: 85 LIBERTY ST., NEW YORK 6, N.Y.
WORKS: ALLIANCE AND BARBERTON, O.; AUGUSTA, GA.

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Imagine *doing an analysis job* with not 6 . . . but 300 hands!

THAT'S what happens in our Bill Frequency Analyzer which is one of the most remarkable machines you ever saw. It is an electro-mechanical device with 300 registers which automatically classify and accumulate—*all in one step!*

150,000 to 200,000

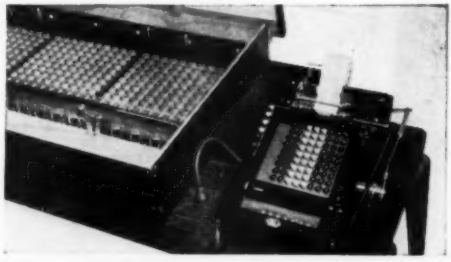
This mechanical marvel is exclusive with us and of especial interest to you for the speed and ease with which the machines compile bill analyses.

Operated by our trained personnel, these machines can analyze between 150,000 and 200,000 bills in one day! And no clerical work is required in *your* office.

The cost for this unusual service is also worth looking into. The charge is but a small fraction of a cent per item.

Get *all* the facts

Read the FREE booklet, "The One-Step Method of Bill Analysis," which will give you further details. Send for it now!



RECORDING AND STATISTICAL CORPORATION

102 MAIDEN LANE, NEW YORK 5, N. Y.

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A GREAT COUNTRY

Less than 560,000 Montanans last year farmed crops to the value of $212,279,000; raised livestock sold at $171,713,000; mined ore worth at least $66,000,000; manufactured goods valued at $40,000,000; cut timber and produced rough lumber worth $16,855,000; entertained tourists to the tune of $20,568,000 . . . a total income from only those resources of $527,415,000, while unlisted activities swelled Montana's income to at least $665,000,000. Taken per capita, this income is far above the national average.

This Company serves industrial, residential, commercial and rural customers in 35 of Montana's 56 rich counties. We will be happy to mail you a copy of our 1946 Annual Report.

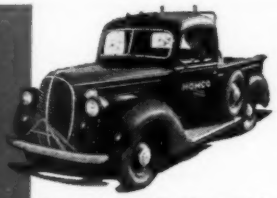
The Montana Power Company

Serving the Treasure State

"Certainly

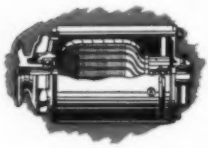
FORD TRUCKS LAST LONGER!"

"That's why we operate 207 of them!"—says C. R. Littlepage, Supt. of Transportation, Houston Oil Field Material Co., Houston, Texas.



Two 1939 Ford Trucks owned by HOMCO that prove the point: (Above) Driver Joe Zachary and Pickup, mileage 207,316; (Below) Driver H. O. Carpenter and Pickup, mileage 228,398. Supt. Littlepage adds: "Our Ford Trucks deliver trouble-free miles at minimum cost!"

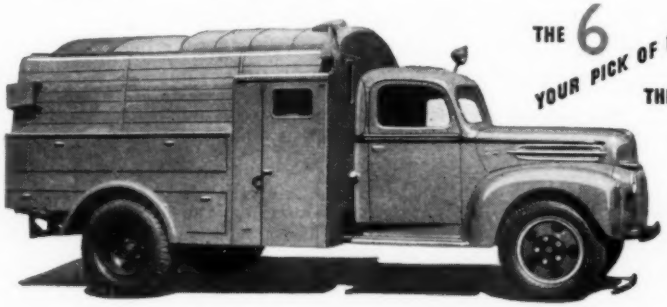
One BIG Reason—
FORD ELECTRICAL UNITS STAND UP!



The fame of Ford Trucks for swift, sure starting and all-weather reliability rests solidly on Ford design and Ford quality . . . in particular, the Ford Electrical System. Long, trouble-free generator service is assured by such long-life features as pre-lubricated, sealed ball bearings on armature shafts, and by bushings wick-lubricated from a reservoir with an overflow drain, which prevents surplus oil from reaching commutator. Ford starter motors are pre-lubricated. Ford wiring and generous battery and generator capacity adhere strictly to the highest standards of the industry. The simplicity and high efficiency of the Ford starting system circuit, too, have much to do with Ford's faithful starting performance.

Ford

A favorite, and an ideal unit for utilities construction and maintenance service, is the Ford heavy duty chassis. Power to pull through the heaviest going is matched by the kind of stamina required for tough off-the-road operation. Body by James A. Kiley Co., Somerville, Mass.



THE 6 YOUR PICK OF POWER THE V-8

Only Ford Brings You All These Long-Life Features: Your choice of engines, V-8 or SIX—each with new Flightlight oil-saving 4-ring pistons and precision bearings • true truck frames in all models, with siderails *doubled* in heavy duty units • rear axle shafts free of weight-load, ¾-floating in half-ton units, full-floating in all others • big, easy-action brakes with non-warping, score-resistant cast drum surfaces • semi-centrifugal clutches which grip tighter as speed increases—in all, *more than fifty* such endurance engineering features! And more than 100 body-chassis combinations to choose from. See your Ford Dealer now!

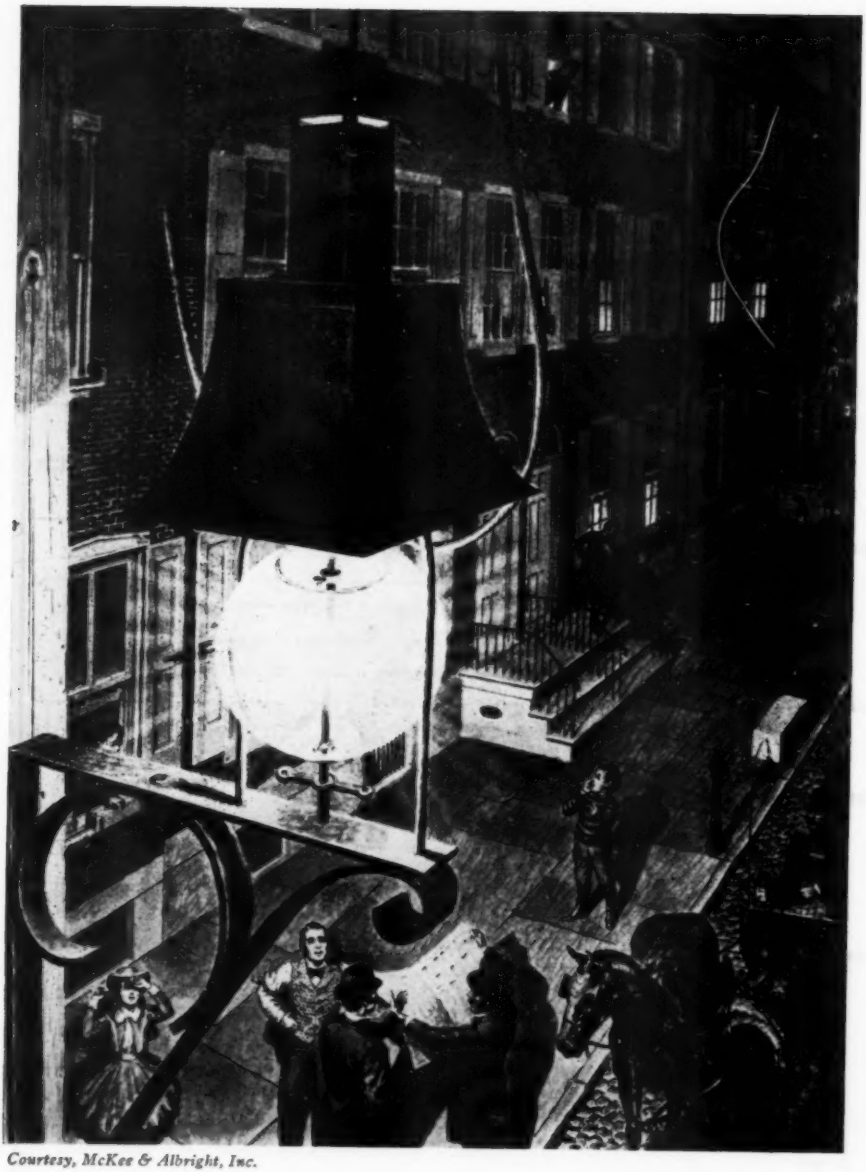
MORE FORD TRUCKS IN USE TODAY THAN ANY OTHER MAKE!

XUM

Utilities Almanack

JUNE

5	Th	¶ *Edison Electric Institute ends annual meeting, Atlantic City, N. J., 1947.*
6	F	¶ *Pacific Coast Electrical Association ends meeting, Riverside, Cal., 1947.*
7	Sa	¶ *California Independent Telephone Association will hold convention, Santa Monica, Cal., June 19, 20, 1947.*
8	S	¶ *National Electrical Manufacturers Association will hold annual meeting, Hot Springs, Va., June 22–26, 1947.*
9	M	¶ *Canadian Gas Association begins meeting, Niagara Falls, Ont., 1947.*
10	Tu	¶ *American Gas Association, Residential Gas Section, New York-New Jersey Gas Sales Conference will be held, Spring Lake, N. J., June 23, 24, 1947.*
11	W	¶ *National District Heating Association will meet, Atlantic City, N. J., June 24–27, 1947.*
12	Th	¶ *Oregon Independent Telephone Association and Washington Independent Telephone Association will hold meeting, Hood River, Or., June 27, 28, 1947.*
13	F	¶ *Michigan Gas Association will hold meeting, Mackinac island, Mich., July 7, 8, 1947.*
14	Sa	¶ *National Association of Railroad and Utilities Commissioners will hold annual convention, Boston, Mass., July 14–17, 1947.*
15	S	¶ *American Society of Civil Engineers will hold meeting, Duluth, Minn., July 16–18, 1947.*
16	M	¶ *American Society of Mechanical Engineers begins semiannual meeting, Chicago, Ill., 1947.*
17	Tu	¶ *American Water Works Association will hold annual conference, San Francisco, Cal., July 21–25, 1947.*
18	W	¶ *Public Utilities Advertising Association begins convention, Detroit, Mich., 1947.* ¶ *Canadian Electrical Association begins meeting, St. Andrews, N. B., 1947.*



Courtesy, McKee & Albright, Inc.

Baltimore's First Electric Street Light—1881

Public Utilities
FORTNIGHTLY

VOL. XXXIX, No. 12 JUNE 5, 1947

Younger Men Are Needed For Industrial Leadership!

A challenge to youth is one of the major appeals of the electric utility industry of the United States as it meets in annual convention under the auspices of the Edison Electric Institute.

BY GROVER C. NEFF*
PRESIDENT, EDISON ELECTRIC INSTITUTE

THE electric utility industry is a young industry in terms of years as well as technical evolution. Indeed, it is the youngest of all the great public utility industries which have contributed so much to our American standard of living: the railroads, gas, telegraph, telephone, urban transit, water distribution services.

The electric light and power industry is still expanding, still challenging the genius of talented young men to join in the magnificent and rewarding task of serving America—with new ideas and new ways to carry out ideas. There never has been a single substantial period in our industry's entire history when the general average of business volume did not show a steady advance beyond all previous similar periods. Upward, always upward, have climbed the various statistical indices reflecting the vigor of its industrial growth. Today, the horizon is still un-

*For personal note, see "Pages with the Editors."

limited. The challenge is still as wide open as it ever was.

But we have passed that milestone in our industrial history which must give every industry pause for reflection. We have passed the limits of a single generation. All of our pioneers have passed away. Even the ranks of the younger men who knew Edison, and the other founders in the prime days of their activities, are thinning rapidly. The "young men" of the 1910's and the 1920's are wearing the mantles of industrial leadership today. Some of them are approaching retirement deadline. The call must go forth to a still younger generation who will be our industry's leaders of tomorrow.

One of the best means for passing along the task of industrial leadership is by the face-to-face exchange of ideas —through meeting and visiting with these young men in an atmosphere of industrial fraternity. Such conclaves serve the double purpose of permitting the incumbent group of industrial executives to gauge the mettle and the merits of the individual younger men coming up while at the same time inculcating in these younger men the high spirit and proud tradition of our public service obligation.

THIS situation recalls to me the words of almost Biblical simplicity which were spoken at the very first convention of the electric industry held in Chicago in 1885. These were the words of the temporary chairman, William A. Hovey, who said at that time:

> Now, I take it, this convention is held upon the principle that some of us know what others do not. Let us in a friendly way compare notes, tell each other anything that has been a benefit to us and can be to others, and I think that when we go home we shall all do so with increased knowledge.

Since that time there have been 62 annual conventions of the electric industry, comprising a series of honorable and useful meetings from which we have derived many benefits. In its present form of organization, the Edison Electric Institute now holds its Fifteenth Annual Convention at Atlantic City, New Jersey, on June 2 to 5, 1947. What do we hope to accomplish, as an industry, at this time through gatherings such as these, which could not be done before? The inspiration of this spirit of industrial leadership in our younger men, it seems to me, is certainly a paramount objective.

We need the younger men, as never before; we seek and hope to develop more of them for positions of industrial leadership. In the past decade many of our young men have forged ahead to positions of high responsibility.

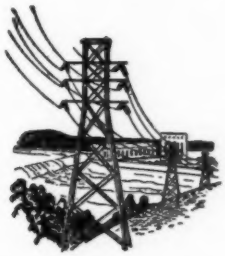
The war made it impractical or impossible for many younger executives to attend the past several conventions, but this year it is the desire that as many as possible join with us at Atlantic City, for, as was said also at that first convention, "they must know the faces of their fellow members, and hereafter they will know something of their features, and of the conduct of their business."

THE war has taught us to realize how vital to the national welfare and security was an abundant, dependable supply of electric energy. Now we face the various problems of meeting all the increased demands for peacetime service required for a comfortable, convenient living which our great

XUM

nation deserves and will have. It is not too much to say that the outcome of our deliberations and discussions in this Fifteenth Annual Convention of the Edison Electric Institute may well contribute richly to the attainment of that objective.

The planning of the program of this meeting and the months of work necessary for its completion have not been mine. For that, I must commend the convention program committee, consisting of Messrs. Phil H. Powers, chairman, George M. Gadsby, and Charles E. Oakes, who is also chairman of the convention attendance committee. May the Fifteenth Annual Convention see many new faces who will fill vacant spaces and the many higher places which the toll of passing years has left in the ranks of our great industry.



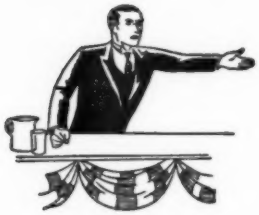
TVA's Borrowings

"THE *government's General Accounting Office has recommended to Congress that a definite schedule be adopted for the repayment to the Treasury of the money spent by the Tennessee Valley Authority for its various power installations. The Appropriations Committee of the House once recommended full repayment in forty years but nothing more was done about it and nothing at all was done about collecting interest on the advances.*

"The suggestion is obviously a sensible one. If the rates paid by consumers of TVA power are not sufficient to enable the authority to repay what it has borrowed, with interest, the rates should be raised. There is no conceivable reason why the American people generally should be burdened with part of the light and power bills of a favored section. On the other hand, if it is true, as the propagandists of TVA assert, that the Treasury's advances to TVA are being repaid, then there should be no objection on the part of the bureaucrats to imposing the requirement by law.

"It would be still better to sell the TVA power system and use the proceeds to reduce the national debt. If the beneficiaries have a prejudice against private ownership, the sale might be made to an interstate authority on the model of the Port of New York Authority, provided it offered the best bid."

—EDITORIAL STATEMENT,
Chicago Daily Tribune.



Wanted: A National Power Program

A plea for unified and balanced national power development policy which will coördinate both the regulatory obligations and the development responsibilities of the Federal government.

By NELSON LEE SMITH*
CHAIRMAN, FEDERAL POWER COMMISSION

LARGELY through individual initiative and private enterprise, supplemented significantly by some very important and well-conceived public projects, our nation has become the world's greatest producer of electric power. During the past fifteen years, the output of the electric utility industry, including public projects, has grown from 91 billion kilowatt hours in 1930 to 223 billion in 1945. Of this amount over 30 per cent was the result of hydroelectric generation, with public plants—principally constructed and operated by agencies of the Federal government—accounting for nearly 50 per cent of the total hydro output.

One of the fundamental bases of our overwhelming superiority in the production of war materials was the availability of adequate electric power. We produced more electric energy than all the other major powers combined. Germany turned out from 60 billion to 70 billion kilowatt hours annually during the peak of her wartime production, or only about one-fourth of the power production of the United States. In 1943, Japan produced some 48 billion kilowatt hours, Great Britain 37 billion, Canada 40 billion, and France 21 billion. Reliable data on recent Russian production are not available to me, but in 1940 the Soviet output of electricity was only about 50 billion kilowatt hours.

Our position of outstanding leadership in this field is attributable, not simply to our vast natural resources, but no less to the ingenuity of our people, the efficacy of our system, and the vision of our leaders, both in industry and in government, who have made possible our unparalleled power development.

To emphasize past accomplishments within the framework of our free econ-

*For personal note, see "Pages with the Editors."

omy, however, is not to suggest that we have in fact proceeded with no heed to the future, or that we should, or can, fail to look intelligently ahead with a view to providing favorable environment for further necessary and desirable power development. With electric power market demands continuing to expand apace, with existing facilities in various parts of the country straining to meet these needs, and with great undeveloped hydro power sources—amounting to an estimated 77 million kilowatts capable of producing some 340 billion kilowatt hours annually—still awaiting conditions which will make their utilization economically feasible, we can ill afford not to take these potentialities into account. And, while we are without a master plan in the totalitarian sense, there are discernible at least the broad outlines of a national program—or, perhaps I might better say, policy—for power development.

THE duties of the Federal Power Commission under the basic statute which are most directly pertinent here are these providing for: (1) the licensing of water-power projects on streams and lands within the jurisdiction of Congress; (2) investigation of undeveloped water-power resources and their potential utilization; (3) study of the possibilities for the interconnection and coördination of power systems, in the interest of both the economy and sufficiency of power supply and the conservation of natural resources; and (4) broad surveys of all aspects of the electric power industry, including the collection, analysis, and publication of operating and other data.

Without going into detail about the composition of the work of the Federal Power Commission, I would like to point out that the commission has issued nearly 700 licenses, of which half are for water-power plants and half for transmission lines in the public domain. Under authority of the Federal Power Act the commission carries on continuing surveys of the water-power potentialities of river basins throughout the country, provides for the study of electric system interconnections and coördination to assure an abundant supply of energy throughout the United States, with due regard for the sound conservation and utilization of our natural resources, and has become the national clearing house for complete and authorized information on all phases of electric power matters, regardless of ownership.

The duties and activities of the commission within the general framework of the Federal Power Act have more direct application to developments undertaken by private capital and by state and local authorities than to those constructed and operated by agencies of the Federal government itself. In this respect, the outlines of policy are, perhaps, less clear and well defined.

AT present, the Federal agencies most concerned with Federal power projects, under the general guiding hand of the Congress, are the War Department, the Department of the Interior, the Tennessee Valley Authority—all as constructing and operating organizations—and, in a rather different function, the Federal Power Commission.

The War Department, through its Corps of Engineers, constructs and operates power plants at flood-control and

navigation projects upon joint recommendation of the Chief of Engineers and the Federal Power Commission, when such power development is authorized by the Congress.

The Department of the Interior now has several agencies which are concerned with power development. Its Bureau of Reclamation constructs irrigation and reclamation projects in the western states. The bureau determines, independently, as authorized by the Congress, the provisions to be made for power development at its projects, the transmission facilities to be provided to reach prospective markets, the rates at which the power shall be sold, and all other aspects of its power development and marketing program. It is not required by law to consult with any other Federal agency on these matters, but, under a working arrangement now in effect, project reports of the bureau are referred to other interested agencies for comment.

Also under the Department of the Interior are the Bonneville Power Administration and the Southwestern Power Administration, which perform similar operating functions in their respective areas. All existing Federal projects in the Southwest were constructed by the War Department. Their output is marketed by the Southwestern Power Administration at rates subject to Federal Power Commission approval.

All power from Federal projects in the Columbia river basin is marketed by the Bonneville Power Administration, with the rates for Bonneville power and power generated at other War Department projects subject to approval by the Federal Power Commission, but with such approval not required for the rates on power from the Grand Coulee and other Bureau of Reclamation projects in the area.

The Tennessee Valley Authority is, except for the requirement of compliance with the accounting regulations of the Federal Power Commission, generally free from review of its activities by any other Federal agency. In the construction and operation of its projects and in the establishment of its rates it is subject only to the direct control of the Congress.

From this brief résumé, it will be seen that there is a lack of uniformity in the legislation governing the manner in which Federal power projects are administered. Although the Federal Power Act, as previously described, provides for a substantial degree of control by the Federal Power Commission over non-Federal water-power development, and some participation in the interconnection and coördination of

¶ "During *the past fifteen years, the output of the electric utility industry, including public projects, has grown from 91 billion kilowatt hours in 1930 to 223 billion in 1945. Of this amount over 30 per cent was the result of hydro-electric generation, with public plants—principally constructed and operated by agencies of the Federal government—accounting for nearly 50 per cent of the total hydro output.*"

regional power systems, there is no such legislative requirement with respect to construction of power facilities by the Tennessee Valley Authority or agencies of the Interior Department. Athough all Federal power marketing agencies are required to conform to the commission's accounting requirements, only in certain specified instances, such as at Bonneville and Fort Peck, are the allocations of cost, as between power and other project uses, made by the commission.

SOME rates for power generated at Federal projects are subject to approval by the commission; others—notably those of the Tennessee Valley Authority and Bureau of Reclamation projects—are not. And there is a considerable lack of consistency in the marketing of such power, particularly with respect to the construction of transmission lines. The Tennessee Valley Authority has constructed lines to market its power and steam plants to supplement its hydro power. The Bonneville Administration has, generally speaking, been able to construct such transmission lines as have been deemed necessary to market its power in the Northwest. The Department of the Interior, however, under § 5 of the Flood Control Act, has not been granted funds for Federal steam stations or for many proposed transmission lines.

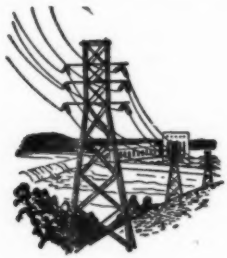
While much has been accomplished in the coördination of Federal power construction activities through the effective coöperation of the agencies concerned, there seems to be evident a need for the Congress to develop a more consistent pattern for the treatment of some of these important aspects of Federal power project operation and administration. This could be helpful in resolving uncertainties as to power supply in the areas in which such projects are located or proposed, in improving the negotiation of contracts with prospective purchasers of their output, and, perhaps, in allaying some of the suspicion with which the advocates of public and of private power regard one another, thus tending to promote a more favorable atmosphere for sound power development from a truly national point of view.

Without undertaking to supply all the answers, I shall make bold to suggest some of the questions which, in my opinion, are of significance in this connection:

FIRSTLY, the Federal government should face squarely the responsibility for providing all or a substantial part of the additional generating capacity needed in those areas where it is already regarded as the predominant source of power supply. This is already the situation to a large degree in the Pacific Northwest. The major utility companies in Washington and Oregon, recognizing this situation, recently issued a joint policy statement in which they went on record as follows:

> The assumption of this utility responsibility by the Federal govenment has caused investors and management of both publicly and privately owned industrial and power distribution enterprise in the states of Oregon and Washington to plan their investments and development programs in the belief that this Federal policy will continue.

Unless the Federal policy is to be reversed, the Congress now finds itself in the position of having to continue to provide generating capacity for the rapidly growing electric loads of that region.



Marketing of Power in Columbia River Basin

"ALL power from Federal projects in the Columbia river basin is marketed by the Bonneville Power Administration, with the rates for Bonneville power and power generated at other War Department projects subject to approval by the Federal Power Commission, but with such approval not required for the rates on power from the Grand Coulee and other Bureau of Reclamation projects in the area."

SECONDLY, the Federal government should give a clear answer to the question of policy involved in Federal transmission-line construction. Are Federal generating facilities to be integrated into the existing power production and transmission facilities of an area with a minimum of Federal transmission-line construction and operation, or are competitive, federally owned lines to be provided to reach all prospective utility and industrial customers? If the former, interconnections must be arranged for, and common carrier operations might sometimes be needed to carry energy for small public systems unable to build to the Federal source of supply. If the latter, it would be necessary for the Federal government to accept the fact that it is actually in the power business on a large scale and to give its operating agencies the necessary facilities to provide the requisite service, just as in any business management must make reasonable efforts to meet the customers' needs.

Finally, the Federal government should, without undue delay, decide and indicate as clearly as possible what its long-run intentions are regarding the electric power field. Is it going to make further inroads into the power business as an operator, or is it going to permit—except where it is already established in the business as stated above—the private power industry to carry on as a regulated utility enterprise, aided and encouraged to meet our national requirements regarding such matters as water-power conservation and development and the coördination of system operations in the interests of both national defense and an abundant normal power supply at reasonable cost to the consumer?

THESE, and other questions regarding the outlines of our national power development program, are all problems which the Congress will have to settle. In any event, whether the Congress should decide to go further into public power operation or to stop at something like the present point, it seems to me greatly to be desired that a maximum of consistency be provided concerning those power production activities in which the Federal government engages. In this connection I venture to suggest that it would be appropriate for the initiative in matters of development, operation, and marketing to be vested in agencies organized and responsible for such matters—subject, of course, to the general policy-making and appropriating authority of the Congress.

The Federal Power Commission, I believe, can be of assistance to the Congress in its formulation of broad policies and standards of administration. Essentially, it is an arm of the Congress itself. Without the necessity of justifying past and promoting future construction or operating practices, the commission is well equipped to supply unbiased judgments and impartial advice concerning the need and economic justification for proposed expenditure, performance, and adherence to such standards of accounting, cost allocation, amortization, and rate making as the Congress, in its wisdom, may in clear and unambiguous terms declare to be the national policy. With definite responsibilities in connection with both the regulation of private electric utilities and the coördination of private and public power development in the national interest, the Federal Power Commission is not a protagonist of either type of development as such; it is, therefore, in a particularly good position to weigh impartially the relative advantages of each in the particular setting of any individual case.

Speaking of Losing Your Head

PEOPLE are apt to leave most anything in busses and streetcars these days. Not so long ago a human skull was found under the seat of a Washington, D. C., bus. When no claimant appeared, Capital Transit Company's lost and found department turned it over to the police department. The finding of human skulls is not an everyday occurrence, however. Lost articles ranging from umbrellas and gloves down through typewriters, stenotype machines, scooters, sledge hammers, musical instruments, and even a little girl, have been known to turn up. (The little girl boarded the wrong bus and was brought into the lost and found department by a passenger. After a while, she was able to tell her name and address. Her mother was notified and came down to get her.) Of the over 21,000 articles turned in during 1946, half were returned to their owners. Another 5,000 went to the finders, and the remainder, for the most part, went to the Good Will Industries. Umbrellas, of course, were the most frequently lost articles. And absent-minded passengers left a total of $19,779 in cash and $39,949 in securities behind them.

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It Is Not in the Cards

There is no such thing, declares the author, as fair government competition with private industry and, therefore, under such conditions public and private power cannot competitively coexist, the end result of government competition being the destruction of private enterprise.

By FRANK McLAUGHLIN*

PRESIDENT, PUGET SOUND POWER & LIGHT COMPANY

THE public *versus* private power issue is too often presented to the people by means of appeals to the emotions, through the employment of demagogic tactics and the use of extravagant and highly prejudiced propaganda. During the past sixteen years a lot of people have been ensnared and deluded by a political rather than an economic approach with respect to the basic power issue.

On the other hand, the question may be raised as to whether the statesmanship of the private power industry was all that it could have been. It would appear as though some in the business like to stick their heads in the sand, figuring what is going on is only a dust storm and that it will blow over them without doing any damage, when in fact a private property-destroying cyclone is whirling about and taking its toll. Others like to kid themselves and the public in the belief that, under present laws and conditions and notwithstanding public power's large subsidies and special privileges, private and public power can competitively coexist. The public must be told the truth. I for one do not see how private power can expect to get a square deal unless the people know the nature, scope, and effect of the existing inequalities brought about by government in business. For the good of all concerned, existing fallacies must be exploded and the realities of the situation faced.

BECAUSE the company with which I am associated has been in the front-line trenches in the battle of power ideologies for many years, and as the public competition with which the Puget Sound Power & Light Company has to contend ranges all the way from that of the huge Federal projects to small municipal plants, it may be that observations made as a result of our

*For personal note, see "Pages with the Editors."

experience will be of some value. These observations are summarized as follows:

1. There is no such thing as fair government competition.
2. Federal projects such as TVA, Bonneville, and Coulee are in no sense fair yardsticks for measuring the efficiency of the performance of private power.
3. Public and private power cannot competitively coexist.
4. Because of large tax subsidies, cheap-money advantages, and special privileges, public power agencies can sell electricity at lower rates than can a private power company.
5. Regardless of ideologies, the people will purchase their electricity wherever they can obtain it the cheapest.
6. Many people, while giving lip service to the cause of private power, use public power in their industries, businesses, and homes because of favors granted or reprisals feared, and notwithstanding the fact that private power is available to them at the same rates. Without customers there would be no public power.

SOME of the foregoing observations will appear to be too obvious for further comment; others will need some facts and arithmetic to support the particular premise. I should like to add, however, that I am continually surprised at the number of people who refuse to accept or want to ignore the obvious. Some of these folks, for example, express the belief that direct competition between public and private power is a good thing, while others fail to see why Puget cannot give its competitors an advantage of 25 to 30 cents on the dollar of gross revenue and still stay in business!

Right at the beginning I would like to point out that when government, be it national or local, goes into the power business it does so on a preferential basis, and its business offspring are cradled as pampered pets while the private utilities, generally speaking, are given the opposite treatment and told to sleep in the street. This is evidenced by the fact that for over a period of years state (Washington) and national legislation has been enacted giving substantial tax exemptions (which are in effect subsidies), cheap-money advantages, and special privileges to public power. Because of such beneficent inducements, the Pacific Northwest's abundant water-power resources and the Federal government's propublic power policies, it was inevitable that there would be a large expansion of public power operations. This region is truly a public power advocate's paradise with the Federal government, municipalities, public utility districts, REA, co-ops, and mutuals all in the power business.

WHAT Puget is up against in the way of present and potential public power competition is clearly indicated from the following:

A. In the area served by the company, the cities of Seattle, Tacoma, Centralia, Ellensburg, Cashmere, and Blaine, and ten smaller communities, all have municipal plants. These are not by any means new. They have been in existence almost from the turn of the century. Puget is in competition with the city's municipal plant in the Seattle metropolitan area. The city council has gone on record to the effect that, when the company's franchise expires in 1952, the city proposes to take over the entire light and power business. This shows what can happen when a government is your competitor.

B. The advent of the Federal government's Bonneville-Coulee developments gave great stimulus to the public power movement in Washington, not just because the power was there but because the government fostered it. Under the impetus of war demands there has been a huge expansion of Bonneville-Coulee generation and transmission facilities, so much so that the Federal government now dominates the power supply field in the Pacific Northwest. The Federal government's power policy, the Bonneville Act, and the administration of it are propublic power. Local distributing public agencies, such as public utility districts and municipalities, can now obtain Bonneville-Coulee power at their front doors at preferential rates and under preferential terms and conditions. The Bonneville Administration has been inducing local public agencies to get into the power business and, through special rate concessions and otherwise, has been endeavoring to lure away and serve directly some of the large industrial customers of the company.

C. Since the Public Utility District Act was passed by the people of the state in 1930, the company's operating territory has gradually been practically surrounded by public utility districts and, at present, there are twelve active operating districts in adjacent areas. (A public utility district is a municipal corporation and hence has about the same tax subsidies, cheap-money advantages, and special privileges as are accorded other government agencies. Such districts usually operate on a county-wide basis.)

PEOPLE have said to me: "Your company is still in business and you have had to contend with public power competition for many years. How come private and public power cannot competitively coexist?" Well, the over-all answer is that the picture has radically changed in the last sixteen years. This is borne out by previous comment as to the big public power expansion and, in the subsequent discussion, further reasons will be presented.

Back in 1930 only 5 per cent of the company's gross revenue went for taxes while for 1946 the figure was about 20 per cent. In other words, 15 per cent more of Puget's gross revenue was taken for taxes in 1946 than in 1930, and dollar-wise this amounts to more than four million. Thus, the public power tax exemptions, which were of minor importance from a competitive standpoint in 1930, become mighty serious at the present time. Further, during the past few years when Puget has had to pay a lot of money into the U. S. Treasury for income taxes, its competitors, exempt from paying such taxes, have had the opportunity to build up large reserves.

Public power agencies are exempt from Federal income taxes (38 per cent of net earnings at present), the 3⅓ per cent excise tax on electric sales, social security, and other Federal taxes which, for this company's electric op-

¶ "PUBLIC *power agencies are exempt from Federal income taxes (38 per cent of net earnings at present), the 3 1/3 per cent excise tax on electric sales, social security, and other Federal taxes which, for this company's* [*Puget Sound*] *electric operations, amounted to about $2,600,000 in 1946. The Federal government and the municipalities do not have to pay any real estate or personal property taxes.*"

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erations, amounted to about $2,600,000 in 1946. The Federal government and the municipalities do not have to pay any real estate or personal property taxes. The public utility districts have been paying only 2 per cent of gross revenue in lieu of taxes and have been purchasing the major portion of their power requirements from Bonneville. State legislation was recently enacted increasing the rate from 2 per cent to 5 per cent to apply in cases where the districts own and operate generating facilities. The purpose of such legislation is to prevent a tax loss in the event this company is purchased by the districts. Puget's real estate and personal property taxes for the year 1946 aggregated around $1,300,000.

THE public power agencies have also benefited greatly because of cheaper money rates, in part resultant from the Federal income tax exemption of bond interest. In 1930 the bonds issued by such agencies carried interest rates of about 5 per cent, while the going rate at present is around 2 per cent. The last three issues of light and power revenue bonds sold by public agencies in this area carried effective interest rates of 1.75 per cent, 1.83 per cent, and 2.07 per cent. In a business such as an electric utility where a large investment in hydro plants and other long-life facilities is required, the annual capital cost is a major expense.

Most people know that the Federal projects, such as Bonneville and Grand Coulee, obtain their capital funds from the U. S. Treasury, but what I feel needs emphasizing here is the basic difference as to the method of financing capital requirements between a private company and a government agency (other than Federal) engaging in the utility business. Such government agency obtains a large saving in annual capital cost as compared with a private utility because it can finance 100 per cent with bonds (general obligation and revenue), the interest on which is tax exempt. This method of financing exists because the public power agency is owned by government and, of course, a private utility cannot finance on such a basis.

A private utility cannot normally expect to finance more than about 50 per cent of the capital required by a bond issue (interest not tax exempt) secured by a mortgage on the property. The balance of the necessary capital is procured by the sale of stock which, because of the greater risk involved, demands a higher rate of return than the bonds. This type of financial structure, which is conventional for private utilities, results in the annual capital cost of the private utility being considerably more than that of the public power agency. If Puget could finance on the same basis as its government competitors, its annual capital cost would be less than half.

IN passing, it should be mentioned that high income tax rates have resulted in a big increase in the popularity of tax-exempt light and power revenue bonds. On the other hand, Puget has to pay more for its money than would be the case if the territory it served were free from public power competition. When applied to a system the size of Puget's, the tax, cheap-money, and other advantages of public power agencies under present laws and conditions would amount to around 25 to 30 cents per dollar of gross revenue

Preserving Private Enterprise

"It is unrealistic to talk about preserving private enterprise in the electric power field in a territory where a ceiling on earnings has been placed by government-owned properties operating at cost, which cost has been artificially reduced by subsidies and where special privileges and preferences are accorded public agencies."

and aggregate approximately $6,000,000 per year, which figure is almost equal to the company's present total net earnings available for return on investment. In other words, the private utility would, in some miraculous way, have to earn that much more net out of the same gross or it would have to operate without any return to its bondholders and stockholders to be on an equal basis with government agencies. This is tangible evidence as to why, under present laws and conditions, public and private power cannot competitively coexist. No business can give its competitors such a big advantage and hope to live. If there is one that can, I would like to hear about it. I know of no magic of management which will offset the present advantages of public power agencies in the state of Washington.

Heavily subsidized public power competition, under present laws and conditions, cannot do, otherwise than force electric rates too low, reduce earning capacity, impair credit, and make it difficult for a private company which is up against such competition to maintain a sound capital structure. The situation becomes more acute for private power under the present economy of at least 50 per cent increase over 1941 in wages and prices because public power's subsidies give it a "cushion" which can be used to absorb increased costs.

In support of the preceding observation as to the adverse effects of public power competition, and in further answer to the inquiry as to how Puget has been able to stay in business, it should be said that this company has continued to live largely because of the wiping out of the investment in its former common stock and nonpayment for many years of both preferred and common dividends.

In the depression days of the early Thirties, Engineers Public Service Company, which owned the common

stock of this company at the time, put about $12,000,000 of additional equity money into the property. If this had not been done, Puget would have been in a very bad way. In 1943 at the time of Puget's recapitalization and divorce from Engineers Public Service Company in proceedings before the Securities and Exchange Commission, Engineers' equity in Puget common stock, which was about $34,000,000, was practically wiped out as Engineers received only around $700,000 for its stock. The present common stock of Puget resulted from its exchange for the old $6 preferred as a part of the recapitalization plan. During the 10-year period (1933-1943), Puget did not pay dividends on its $6 preferred stock and, in 1943, the amount of the dividend arrearages on such stock was in excess of $17,000,000.

Private power's capacity to competitively coexist with public power in the state of Washington has been further impaired by the Federal government's huge power system combined with its propublic power policies. Further, the availability of Bonneville-Coulee power at low rates throughout the company's territory more than offsets, from a competitive standpoint, the advantages to the company which are inherent in a large integrated private system.

Recently all the major private utilities in the states of Oregon and Washington and the Seattle and Tacoma municipal plants stated before congressional committees that with the Federal government rests the responsibility for providing an adequate future power supply for the area. This is clear-cut evidence that the private utilities cannot compete with the Federal government in the production of power under the conditions existing here in the Northwest.

PRIVATE capital is simply not available to Puget to build power plant facilities in competition with the Federal government. How the competitive situation affects the market price of Puget's common stock is evidenced by the fact that it has been selling at less than 7 times earnings, while the average of over forty operating utilities is about 14 times earnings.

It is unrealistic to talk about preserving private enterprise in the electric power field in a territory where a ceiling on earnings has been placed by government-owned properties operating at cost, which cost has been artificially reduced by subsidies and where special privileges and preferences are accorded public agencies.

In order for an enterprise to live under the capitalistic system, it must be permitted to earn a fair return, assuming its management is competent and that the service or product it sells to the public is reasonably priced. This cannot be done, as the record of Puget reveals, when such enterprise has to compete with the heavily subsidized and specially privileged operations of government agencies. Puget cannot effectively function nor intelligently plan. Its existence is made difficult and uncertain by the acts, whims, and caprice of government.

FURTHER, it should be pointed out that, in addition to its tax subsidies, cheap-money advantages, and special privileges, an agency of government in the power business has inherent advantages over its private power competi-

tors which stem from its being an instrument of government. Being on the outside looking in, I have observed that it means much to public power agencies to have the weight, influence, and credit of government back of their operations.

I might also add that being on the other side of the fence is sometimes rather painful.

PERHAPS the best way to bring out the dimensions, dollar-wise, of the tax and cheap-money advantages of public power is to set up a rather simple income statement and compare the net results of hypothetical municipal and private operations. For this purpose, two fairly large cities of the same size are assumed to be supplied with electric service, one by a private utility and the other by a municipal plant, and it is further assumed that

A. The cities are within the same state and the operations are not directly competitive. Energy is generated by hydro with steam stand-by for dry years.

B. The capitalization ($60,000,000), gross revenue, electric rate schedules, operating conditions and efficiencies, and the annual charge for depreciation, are the same for both systems. For further simplification no provision for sinking funds on the bonds is made in either case.

C. Both the municipal plant and the private utility enjoy excellent credit ratings. The municipal plant is financed 100 per cent by revenue bonds bearing an effective interest rate of 2 per cent, while the private utility's capital structure is 50 per cent of 2¾ per cent first mortgage bonds, 25 per cent cumulative, 4 per cent preferred stock, and the remainder, or 25 per cent, common stock paying a 6 per cent dividend.

D. The private utility and the municipal plant each pays a 3 per cent tax on gross revenue to the state and a similar tax to the city, and these are all the taxes (6 per cent of gross) which the municipal plant has to pay. On the other hand, the private utility would pay, in addition, state and local real estate and personal property taxes, a 3⅓ per cent Federal excise tax on electric sales, a Federal income tax (38 per cent of net earnings), social security, and other taxes required under existing laws.

COMPARATIVE INCOME STATEMENT
HYPOTHETICAL PRIVATE AND MUNICIPAL OPERATIONS

	Private Corporation	*Municipal Corporation*
Gross Revenue	$10,000,000	$10,000,000
Operating Expenses	3,000,000	3,000,000
Depreciation	1,200,000	1,200,000
Interest	825,000	1,200,000
Taxes (except Federal Income Taxes)	1,400,000	600,000
Balance before Federal Income Taxes	$3,575,000	$4,000,000
Federal Income Taxes	1,360,000	.....
Balance before Preferred Dividends	$2,215,000	$4,000,000
Preferred Dividends	600,000	.....
Balance for Common Dividends and Other Purposes	$1,615,000	$4,000,000
Common Dividends	900,000	.....
Balance Available for Other Purposes	$715,000	$4,000,000

UNDER the hypothetical conditions assumed above, and as is shown by the following statement, the balance available after taking care of annual capital costs for the private utility is $715,000 (7.15 per cent of gross) and for the municipal corporation $4,000,000 (40 per cent of gross). Of course, the taxpayers of the nation, state, and city pay indirectly for the showing of the municipal plant.

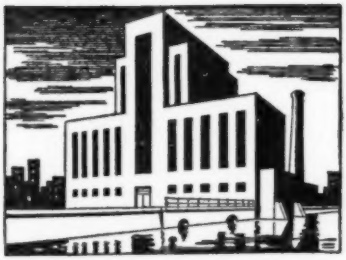
In the case of the private utility, about 50 per cent of the gross revenue goes for taxes and annual capital costs while the comparable figure for the municipal corporation is 18 per cent. Putting it another way, the annual tax and capital cost of the private utility are almost three times as much as those of the municipal plant. To those who are not in the "bight of the line" as to public power competition, these figures will no doubt prove rather shocking. Naturally, there may be differences of opinion as to the assumptions used, but it is felt that the hypothetical comparison serves the purpose of bringing out the substantial degree to which public power in one way or another is subsidized. The margin of difference is so large that any inefficiency of management on the part of the government agency could be easily absorbed. This gap is widened further when a government agency purchases its power requirements on a preferential basis from the Bonneville Administration.

IN the foregoing, I have attempted to present an unbiased and realistic picture as to public-private power competition. I trust I have presented enough proof to convince even the skeptical (1) that there is no such thing as fair government competition; (2) that the so-called TVA or "Federal project" yardstick concept is fallacious and meaningless; (3) that public and private power cannot competitively coexist; (4) that due to large tax subsidies, cheap-money advantages, and special privileges, public power agencies can sell electricity at lower rates than can a private company.

It is evident that a cancerous condition exists in the power industry and it is not going to be cured with a dose of aspirin. The figures as given herein show that the present half-slave, half-free situation in the power field cannot long endure. The $64 question, as I see it, is: How far do the American people want to go in using the credit, tax exemptions, power, and special privileges of government in the field of industry and business? Because of these overwhelming advantages, the end result of government competition in business is the destruction of private enterprise. They cannot competitively coexist.

"ANOTHER *weakness [of the Reclamation Law] is that this is another one of the projects in which the general fund of the Treasury is used to benefit private property again, and the pay-back never comes into the general fund of the Treasury so people all over the United States are contributing . . . The Treasury does not get it back because it is a special fund just the same as the railroad retirement fund is a special fund.*"

—ROBERT F. JONES,
U. S. Representative from Ohio.



Power and Light Securities

Various factors considered of prime importance in determining their desirability from a large institutional investor's standpoint.

By WILLIAM W. BODINE*

FINANCIAL VICE PRESIDENT, THE PENN MUTUAL LIFE INSURANCE COMPANY

As insurance companies continue to take the major portion of public utility bond offerings and are now the largest holders of electric light and power company securities, it may be of interest to the financial officers of the latter companies to have someone engaged in investing money for such an institution put down in black and white a few of his personal likes and dislikes in power and light securities and the important factors which receive consideration in determining whether or not such securities are desirable investments. (While the writer is at present the chief financial officer of a mutual life insurance company, he has in the past been active in arranging financing for public utility companies; so he knows, or thinks he knows, both sides of the picture. However, he now writes from the viewpoint of the institutional investor.)

The debt position of most electric companies today is unusually good. Utility managements have taken advantage of the prevailing low interest rates to refund high coupon issues and, in doing so, Securities and Exchange Commission, Federal Power Commission, and state commission requirements have resulted in conservative programs.

The strong companies, no doubt, have had no trouble in meeting these requirements, but the weaker ones have been compelled either to increase their equity or to reduce mortgage debt, to set up sinking funds, and to increase provisions for maintenance and depreciation, as well as in some instances partially to replace mortgage debt with serial notes or sinking-fund debentures. As a result, the weaker companies have become stronger and have been able to refund at almost as low coupon rates as the companies with the highest grade of credit. In the old days funding equal to little more than half of net plant was the exception; today it is the rule.

*For personal note, see "Pages with the Editors."

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THROUGHOUT the past year public utility bonds have further strengthened their position among prime investments by the high degree of market stability which they have enjoyed. It is a fact that fluctuations in the prices of the highest-grade utility issues during 1946 were actually less than those of long-term U. S. government bonds. One reason for this price stability is to be found in the fact that a large proportion of the total volume of such issues now outstanding is held by institutions for permanent investment, and the amounts coming into the market from these sources are relatively small in volume. But a very important reason is traceable to the business itself. Much to the surprise of many investors—and even some in the industry—the anticipated postwar slump was not forthcoming. Industrial war loads were largely offset by others and made up by profitable residential and commercial sales. With relief from the emergency tax burden and, in some situations, the use of less efficient equipment, earnings were maintained or increased. Now we find the companies in a strong position to finance substantial deferred capital requirements, even at today's high cost of construction.

Operating expenses have been well controlled. The principal variable expense items of the electric companies are wages and fuel. While today direct wages take as much as 19 per cent of operating revenues, and fuel another 13 per cent (figures for the year 1946), few manufacturing enterprises can record such low ratios, which definitely adds to the attractiveness of power and light securities as investments. Sister manufactured gas companies and cousin telephone companies have recently been forced in many cases to seek higher rates in the face of increased costs—not so the electric companies.

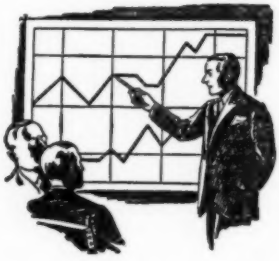
DESPITE the general improvement in the light and power industry and its financial structure in particular, we still like the securities of some companies better than others. We consider the following matters in determining the desirability of investing in the securities of an electric company:

The territory served by the company is of great importance. The ideal territory is a compact one with growing population and industry. Diversified industry comprised of not too large units is highly desirable, and the economy of the area should not, to any considerable extent, be dependent upon any one industry. Therefore, statistics covering sales and revenues by different classifications of industry are of value in our analysis. The names of the principal companies having plants in the service area are also of interest.

From the standpoint of operating efficiency the company should have an integrated operation and not one composed of numerous detached divisions or units, which increases administrative and operating costs.

Regulation should be fair and adequate, and the franchise situation should be satisfactory.

Rates charged for the service are important. This is particularly true as to residential service, including rural, where we examine the rate schedule and ascertain average annual usage, average revenue per kilowatt hour, and average residential bill. The rates for commercial lighting are next in impor-



Sales and Revenues

"SALES and revenues should show a healthy growth, and we like to see net earnings after taxes and depreciation for a reasonable number of years cover fixed charges, including bond interest, three times or more, and, if we consider the purchase of preferred stock, over-all fixed charges and preferred dividends earned at least twice."

tance. Rates for heavy industrial usage must be competitive or the purchasing company will obtain its power requirements from some other source, possibly from another type of energy.

SALES and revenues should show a healthy growth, and we like to see net earnings after taxes and depreciation for a reasonable number of years cover fixed charges, including bond interest, three times or more, and, if we consider the purchase of preferred stock, over-all fixed charges and preferred dividends earned at least twice.

Of necessity, security analysis is confined largely to the study and consideration of relatively short-term factors—recent earning power and balance sheet position, present value of the property, current sales prospects, and demonstrated ability of the present management. It is difficult with any degree of certainty to analyze the long-term future of any business or to visualize what conditions may exist, both for the industry as a whole and the particular company, at the maturity of a long-term bond issue.

Therefore, we do not like bonds with unduly long terms, toward which there has been some tendency recently. Forty-year debentures with no provision for a sinking fund, such as have lately been issued by the telephone companies, are not particularly attractive as investments. We do buy such issues when other issues are not available, but certainly not from choice. The differential in yield between a 30-year bond and a 40-year bond is not sufficient to warrant the greater exposure present in buying the longer-term bonds. However, from 1935 to date we can find no record of any electric or gas utility issuing bonds with a maturity of more than thirty-five years. The Securities and Exchange Commission does not favor terms of more than thirty years, but the New York Public Service Com-

mission recently approved an issue with a term of thirty-five years.

We prefer bonds with cash sinking funds rather than those where the sinking fund may also be satisfied with property. If we have a cash sinking fund we get a second look at our money to see if we want to continue our investment in the company. In addition, cash sinking-fund operations have a stabilizing effect on the price of the bonds, as the available supply is currently reduced.

We like to see provision for a minimum amount which must be expended for maintenance and set aside for depreciation, and provision for the control of depreciation cash so it must either be used for unbondable replacements of property or, if not so used, for the retirement of debt. However, we do not object to the reasonable revision at stated intervals of such required expenditures for maintenance and provision for depreciation, if the change is warranted by prevailing conditions.

Call prices in recent years have been pared down to the point where they afford little protection against refunding, particularly as redemption premiums paid are allowable as deductions in determining the income subject to Federal income tax. Refunding of refunders with little saving to the company does not make for happy investors.

High bonding ratios (the proportion to which bonds may be issued against bondable additions to property) are frowned upon—we like 60 per cent better than 66⅔ per cent.

The electric industry has been a growth industry ever since it began, but, nevertheless, must some day reach maturity. This is an important reason for maintaining a well-balanced capital structure, as no one can accurately forecast when maturity will be reached. Overextension of long-term debt may then effectively close the door to preferred and equity financing. A certain amount of debt is desirable in the case of electric utilities, as the leverage from lower yielding senior securities provides a highly desirable margin of earnings for the common stock. These companies are regulated monopolies and have a stability of earnings not found in industrials or rails, so a portion of the growth in plant can be safely financed by debt, but a conservative capital structure must be maintained and adequate provision for debt retirement should be made. We would like to see this provision greater than is the current practice.

We like to see not more than 50 per cent of the capitalization represented by debt, and certainly not more than 75 per cent represented by debt and preferred stock. Common stock and surplus should not be less than 25 per cent. Only on rare occasions do we buy public utility preferred stocks where debt and preferred stock equal as much as 75 per cent of the total capitalization. As a rule we purchase the top credit bonds in the utility field, which in today's markets provide a relatively low rate of return. By purchasing the highest-grade utility preferreds, which yield about one per cent more in return than the bonds, we are able to increase somewhat our over-all return in the utility field with very little sacrifice in quality.

Obsolescene is a factor which is al-

ways present, but the extent is not known or capable of determination. The difference between net income and the dividends paid is ordinarily the only provision which is made for obsolescence, although it is probable that the depreciation accruals of some companies are heavy enough to take care of a relatively minor portion of the obsolescence factor. This ties in with the desirability of a conservative dividend policy. As a rule it is doubtful if a conservative dividend policy would warrant the payment of more than 70 per cent or 75 per cent of available earnings as common dividends over the long term, leaving the balance available for investment in the business or for debt retirement.

As to desirable additional material to be made available to us as investors, we like to have a 10-year summary of earnings in reasonable detail included in the prospectus, and this might be accompanied by a similar summary of principal balance sheet items. *Pro forma* financial statements are very helpful and should be included if it is practical to do so. For bond issues we would be interested in having the prospectus show the number of times bond interest is earned and the number of times total fixed charges are earned. For preferred stock issues we like to see the over-all coverage of preferred dividend requirements (the number of times gross income covers the total amount of fixed charges and preferred dividends). Such coverages are included in SEC press releases and it would not appear impractical to include similar information in the prospectus. If they are not published we calculate them, in any event, before making our decision as to whether or not we should purchase the issue under consideration.

And now a suggestion from your institutional investor: When you are planning your next security issue, place yourself, at least for a few minutes, in the position of a prospective purchaser and ask yourself the question as to what information you would like to have and the manner and form of presentation which would be most helpful to you in determining whether or not the security would be attractive for purchase as an investment. Or better still, go around to the investment officers of one or more of the large institutions, discuss the subject with them, and get their viewpoints. Then try to incorporate as many of the suggestions in your new financing and presentation as you can see your way clear to do. We visit utility executives in supervising our investments and in our quest for desirable new investments, but rarely does a utility executive come around to see us and discuss his business and prospective financing. I know of an exception or two, and I am quite sure such meetings have been of considerable value in arriving at a mutual understanding of our respective problems. We constitute a very large proportion of your market. Cultivation now will bear fruit in the rainy season.

¶ *"A carrier is like a cow; if it is to be milked, it must be fed."*
—EDITORIAL STATEMENT,
Richmond (Virginia) News-Leader.

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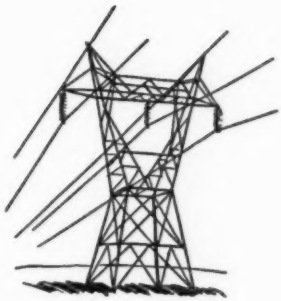

The Rôle of Planned Lighting

EEI's major commercial activity for 1947 is intended to fill a serious need of the utility industry. In this article, the chairman of the institute's commercial division outlines the background of the program and the reasons why it is offered at this time.

By RALPH P. WAGNER*

HIGH on the list of utility services that play an important rôle in our net revenues is lighting. Indeed, so large is the contribution to the financial welfare of our industry that is made by lighting, which accounts for one-third to two-thirds of the average electric utility's revenue — depending upon the character of its industrial load —that few companies could operate without it.

What other of our services can justly claim all these advantages—low selling cost, good load factor, minimum capital investment, low mortality; no saturation; no competition; high power factor; tangible customer satisfaction; worth-while advertising value?

Surely it is safe to say that the lighting load produces greater revenue and kilowatt hours sold per dollar of plant investment, per dollar of operating cost, and per dollar of selling cost, than any other single service we offer.

When we consider these facts, it is particularly alarming to note that the technical and merchandising revolution in lighting, that began in 1938, lay dormant through the war years, and is again in full swing, seriously threatens this mainstay of the utility industry. At the same time, it offers the utility company a rare opportunity to display leadership and aggressive action in meeting the demands of this situation.

A large percentage of our lighting load—25 per cent, perhaps as much as 50 per cent in certain applications—is in jeopardy. At the core of this danger is the threat of hasty and unplanned lighting changes by many of our customers, which, in turn, are a direct re-

*For personal note, see "Pages with the Editors."

sult of the widespread developments now taking place in the lighting field. These new conditions affect the engineering and technical phase, the lighting market as a whole, and the manufacturers of and sales outlets for lighting equipment. Moreover, they are so broad and far-reaching that stereotyped methods cannot cope with the present situation, and an extraordinary solution is badly needed.

To review these developments briefly, let me remind the reader that our customers once used only one basic light source, the incandescent lamp. Their principal concern was the proper size bulb to select. Now, they have a choice among several fluorescent light sources, as well as the familiar filament. The new fixtures and installation techniques that constantly appear make the illuminating engineer an intent reader of trade and technical journals, merely to keep abreast of the new types of lighting being made available. The customer, of course, is hopelessly confused. Lost in a maze of louvers, cold cathode tubings, etc., he instinctively turns to the lighting company for guidance.

Another factor of major importance is the inherent American desire for the new, the different, the modern —the real boss of every business. It makes us turn in cars, appliances, furniture, when they are almost new—compared to the full amount of life that was built into them. We did it before the war—and we'll do it again!

For the same reason, our customers will buy new lighting fixtures, selected not for sight protection, not for value, but because "It's new—it's modern!" Fluorescent lighting has taken hold. In the minds of many customers, this is the modern lighting. Even though many fluorescent installations are inadequate, both from the quality and quantity of light standards, survey after survey shows that heavy percentages of lighting prospects plan to buy fluorescent.

Regardless of the type of incandescent unit used, or the business of the customer, some lighting engineers predict that it is possible, even probable, that most of the incandescent fixtures now on our lines will eventually be replaced. What will happen when a buyers' market fully develops, and many more new salesmen appear in the lighting market? A complete changeover in lighting should occur, it is forecast, within the next few years—a situation resembling nothing more closely than the change from oil and gas to electric light.

This tremendous market will naturally cause large increases in the number of manufacturers and sales outlets. This has been apparent even during the immediate postwar period. But, when materials are again available in unlimited quantities, our customers will be bombarded by ingenious sales appeals from unbelievably large numbers of lighting equipment manufacturers.

Some will be established, legitimate organizations. Others will be fly-by-night, shoestring operators, selling inferior equipment on a price basis, and supported by extravagant claims of lighting superiority, economy of operation, and reduced light bills. Their efforts will mean our spending years of work in attempts to offset the damage done.

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For when the uninformed customer buys his fixtures on the promises of an unknown and unreliable salesman, the usual result is an inadequate and unsatisfactory installation. Yet this will normally cost almost as much as a soundly engineered lighting job. The result is a dissatisfied customer, and a harmful effect upon utility revenues and lighting equipment sales that could easily have been avoided.

THE situation called for a program that could be applied equally well to all major lighting markets—home, store, school, office, and factory—a program that would stress high-intensity, good-quality *lighting,* rather than the sale of fixtures—a truly all-industry program that would be suitably flexible to permit its use by utilities, manufacturers, dealers, contractors, and distributors, on both national and local levels.

Such a program, we felt, could be designed to prevent wasteful and disappointing applications of the marvelous new lighting sources. It could help to provide customers with really modern lighting installations, designed to serve economically and efficiently their specific working, living, and selling needs. In addition, it could well serve as a standard bearer which would guide the efforts of all branches of the industry, and should offer a weapon with which to combat the efforts of irresponsible salesmen.

All of these objectives could be attained, it was reasoned, if customers could be convinced of the desirability of buying a complete lighting installation, carefully planned for efficient service, rather than just a group of fixtures selected for their decorative appeal, or on a price basis. Lighting jobs, as all illuminating engineers have long known, should be planned for each customer—individually tailored to meet the needs of each home, store, office, and factory.

A PROGRAM that emphasized the need for prior planning in each installation would enable the utility's wealth of engineering talent to be profitably employed, both in the actual planning and in training personnel of other industry elements to make their own plans. The utility would naturally take the lead in such a program, since its responsibility is the greatest, and its need the most pressing.

There is, of course, nothing particularly new in the basic idea of planned lighting. All branches of the industry have been planning lighting installations, in a greater or lesser degree, for many years. But the present problem, the methods, and, primarily, the sales approach employed in the Planned Lighting Program which is

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now being offered to the industry by the Edison Electric Institute are radically different, to meet the equally radically different situation.

The basic idea of the program is essentially simple. We urge our customers to have their lighting planned by an expert before they buy equipment. That makes good sense. No one can argue with it, and every branch of the industry can support it.

We will try to persuade the customer to gain all the benefits to be desired from better lighting, instead of buying his fixtures on a price or cost-of-operation basis. We ask him to realize that, in order to be better, lighting must be planned—that, in his own interest, he should refrain from buying any kind of lighting, *unless it is planned*.

THE lighting plan is available, the customer is told, "without cost or obligation," no matter how large or small his premises may be, or the number of fixtures he may need. Instead of buying fixtures from any peddler, with the consequent risk of dissatisfaction and needless expense, the customer can have the assurance of a carefully engineeered plan, prepared to fit his individual needs.

We can apply the Planned Lighting theme to all our markets. In it, we have a standard-bearer which can lead all branches of the industry to the development of the lighting market on a scale never before thought possible. When built up properly in the customer's mind, and executed effectively by the local electrical industry, Planned Lighting itself infers "guaranteed good" lighting. It is an implied certification—an assurance of quality and lasting satisfaction for both customer and company.

Those of our customers who are now considering a change in their lighting can be sold on a "Don't guess —be sure before you buy" platform. We must convince them of the dangers of uninformed purchases of lighting equipment, and the need for a plan in each new installation.

There are many customers, of course, who are not as yet fluorescent minded and who do not intend to modernize their lighting within the near future. These must be sold on the user benefits of better light, just as we have always done. Here, too, Planned Lighting can help.

WE must always combat the salesman who paints rosy pictures of infinitesimal operating costs, and adds his alluring story of various discounts. But, in almost all cases, this salesman is unable to prepare a lighting plan. By stressing the need for Planned Lighting, by telling our customers again and again that it is only good sense to have a plan made before they buy, we have a good chance to prevent many hasty and unwise purchases.

Thus, the Planned Lighting Program can serve as a preventive inoculation, and also act as an antidote to offset the poisoning effect of unsound organizations and unethical salesmen selling the lighting market short, with the biggest loser being the user—our customer. The Planned Lighting Program can boost lighting loads to record heights, and give our customers greater use satisfaction than they have ever enjoyed.

The most important single factor in the success of this program will be

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Major Factor in Success of Program

"THE most important single factor in the success of this [lighting] program will be 'The Man Who Plans'—the lighting representative, whether engineer or salesman, who is properly trained to draw up sound lighting plans. Their training must cover both the technical and sales phases, and should enable these men to prepare either rough but accurate sketches on the spot, or finished layouts for final submission to the customer."

"The Man Who Plans"—the lighting representative, whether engineer or salesman, who is properly trained to draw up sound lighting plans. Their training must cover both the technical and sales phases, and should enable these men to prepare either rough but accurate sketches on the spot, or finished layouts for final submission to the customer.

WHOLESALERS, jobbers, contractors, and dealers can train their sales people to provide this service, or they can refer prospects to those in the community who are already properly trained. The utility company should be in a position to make planned lighting layouts for other local branches of the industry, at least until such time as they can train, with the utility's aid if necessary, their own personnel. The dealer or contractor initiating the job will be proud to submit a well-designed lighting layout to his customer, and will welcome the use of the Planned Lighting theme as a means of increasing his own business.

The promotional materials supplied as essential parts of the Planned Lighting Program have been designed to arouse customer interest in "The Man Who Plans," and to emphasize the importance of his services.

Complete promotional programs, consisting of extensive series of mailing pieces, consumer booklets, sales visualizers, advertising suggestions, and a long list of other sales aids, have been prepared for use in each of the five major lighting markets. Each program is described in its own plan book, which outlines the application of Planned Lighting in that specific market, provides organization and operating information for the sponsors of local Planned Lighting programs, and is expected to prove a helpful reference

and guide for companies adopting the idea.

THE promotional aids, prepared by well-known utility lighting men, with the coöperation of a competent advertising agency of long experience in the lighting field, are confidently expected to prove highly effective. They are offered at a cost lower by far than that which would be experienced if prepared by individual companies.

Among the most novel of these promotional aids is a Planned Lighting Layout form, intended for use by the lighting salesman, and which is designed to facilitate the preparation of the lighting plan. In the case of small installations, the salesman, with the aid of the form, can make the plan on the customer's premises. Where the job is larger or more complicated, the salesman can take measurements, etc., on the form, and either complete his plan at the office or refer the problem to the illuminating engineers of his company. The Planned Lighting Layout form, it is felt, will be of real assistance to the lighting salesman and, since it is designed for easy understanding, should help to increase the effectiveness of the salesman's appeal.

While local conditions will vary, we feel that the average power company can profitably employ this program on a broad scale. The company can provide all allied interests with the basic concept of Planned Lighting as a theme and standard-bearer, to bring more business to it, at the same time offering lighting guidance and leadership in all phases of marketing and installing lighting equipment. Ample, trained personnel can be made available to plan, recommend, and sell lighting for every type of customer. An aggressive educational and promotional campaign to inform customers of the benefits of Planned Lighting is essential, and should be supported by a budget commensurate with the revenue and customer relations values which will accrue.

THOSE utility companies which are confronted by capacity problems, and equally serious labor difficulties, may find it hard to give the proper measure of importance to the development of lighting load and the need to sell better lighting. Executives must realize, however, that successful sales programs cannot be developed overnight. The "know how" that comes with organization and training must be supplemented by detailed promotional programs, and seasoned with enthusiasm, before tangible results can be achieved.

The training of new lighting men requires time—time that must be measured in months rather than weeks —for "The Man Who Plans" has a combination sales and engineering job to learn. Not until the end of the first year can a new organization be qualified for successful lighting work—and not until the end of two years will it be prepared to add load to the lines in appreciable quantities.

The public is not sold by one salesman's contact, or by one campaign. Changes in public opinion trends are accomplished only by persistent aggressive action by an entire industry, which eventually will result in public acceptance. Those executives who wait until all other problems have been settled before considering lighting may find that it is then too late.

National Defense for American Industry

An attack on the American system of free enterprise is essentially an attack on the national security of America itself. It follows from this that a defense of American industry can properly be viewed as a defense of the national security

By W. C. MULLENDORE*
PRESIDENT, SOUTHERN CALIFORNIA EDISON COMPANY

AMERICAN industry today is threatened by a foreign invasion. It is not an invasion by force of arms—not at this time. It is an invasion of foreign ideas—false, subversive ideas, which would have us surrender our birthright for the chains of slavery.

Not the least dangerous aspect of this foreign invasion is the lack of awareness of the majority of our people as to the extent to which it has already taken place. In particular, that lack of awareness is in turn due to a lack of clear understanding on the part of many of our people, of American ideology, notwithstanding the fact that American ideology is the essence of Americanism.

America is not a mere geographical location, and America has not made its unexampled progress either because of its natural resources or because of our people being naturally and inherently stronger than others. America's strength and distinctiveness have been due to *limitations upon the powers of government* and to the freedom of its people from the coercion and guardianship of government, which in turn required the development of a self-reliance and a self-discipline and a freedom to work and accomplish, all of which are the fruits of American ideology.

We in this generation have unfortunately demonstrated that we know so little about American principles that we did not recognize the threats to these principles when these threats were advanced in the name of reform and social welfare and a humanitarian program. Millions of our people in both of the major political parties seemed to see nothing inconsistent with freedom in advocating that our gov-

*For personal note, see "Pages with the Editors."

ernment shall exercise the almost unlimited powers over other people's property which are necessary in order temporarily to provide something called "social security" or "freedom from want." Many of our people seem to have forgotten, or never to have understood, the American concept that government is only one of the agencies of social organization—that one of the primary purposes of constitutional limitations on governmental powers was to prevent government from usurping the functions of the home, the church, the school, and business, which are our other great social institutions.

It may well be that a majority of the Americans of our day embrace the doctrine that government should have such power over the activities, the property, and the earnings of the people as will enable government to redistribute wealth, fix prices and wages and working hours, and provide for the economic guidance, control, and "welfare" of all the people—in their youth, at their work, in middle age, and in their declining years. This is the theory of the welfare state. It is today with us, and freedom and free enterprise are today at the mercy of unlimited government in the United States as never before since 1776.

We took freedom for granted because we inherited it. Not having had to fight for it, we just assumed that we could look after our business and our pleasure, and that our free institutions would take care of themselves. We studied history and civics in school, of course, but, too often, we did so perfunctorily, because we were not aware there was a danger of loss of our freedom in our day. Most of all, we did not realize that the greatest peril to freedom might arise out of government and the drive for ever-increasing power by the officeholder and the bureaucrat.

Consider, for example, what has happened to our business freedom. The most essential single characteristic of the American business system, as it existed before the era of government domination, was a free market. What do we mean by a free market? Simply this: A market to which each and every individual has freedom of access, and in which his success is measured only by the extent to which he is able to get market-place approval of the goods or services which he wishes to exchange. It was this freedom of the market place, sometimes called freedom of enterprise, which was placed foremost by our forefathers in their rebellion against the mother country—a rebellion against the tax impositions, the embargoes, the restrictions of manufacturing, and other arbitrary attempts of big government to restrain and control the use by the individual citizen of his inherent right to his property and his personal ability.

As Thomas Jefferson expressed it in his first Inaugural Address, those who set the pattern for our development insisted upon "our equal right to the use of our own faculties" and to the "acquisitions of our own industry," and Jefferson held that, while it was the function of government "to restrain men from injuring one another," government should "leave them otherwise free to regulate their own pursuits of industry and improvement."

We need, especially in this day, to emphasize that the American system

was not based upon the idea of government guaranteeing anything to the individual citizen except protection against violence and fraud and protection of the chance to demonstrate his ability in a free market. It was "the pursuit of happiness" and not "happiness" itself which was held to be the inherent right of man. There was no representation that regardless of what you have to offer, or will to offer, and regardless of what it is held to be worth in the market place, government must and will use its power, the force of law, to see to it that each and every citizen is kept free from want and provided with a decent living by his or her fellow citizens. This placing of responsibility upon the individual citizen and not upon the government was at once the source of two important and distinctive characteristics of American life—a government of limited powers, and a self-reliant people.

I STOOD not long ago in Independence Hall. It is not too much to say that there took place in Independence Hall the most significant and remarkable series of meetings, extending over a period of some thirty-five years, which have ever occurred in any single place at any time in this world. It was there in that same room that not only both the Declaration of Independence and the Constitution were signed; that the flag of the United States was adopted; and George Washington was commissioned as Commander in Chief of the Army of the United States; but it was also there that a number of preliminary meetings were held which crystallized the protests and clarified the understanding of our forefathers as to the limitations which must be placed upon government if men were to be free. When it became clear that the government of Great Britain refused to recognize these limitations upon the power of government, and proposed to continue to try to assert them, the Declaration of Independence and the Revolutionary War followed.

The resolutions of the Continental Congress, the Bill of Rights of the United States Constitution, and many of the state Constitutions reflect again and again this basic central idea: The United States of America was established because of and upon the proposition that there are certain natural and immutable rights of the individual citizen which *cannot* be surrendered to government; that the right to property is one of these fundamental rights, and that this right to property can in no event be modified or trespassed upon except with the consent of the governed.

THIS American idea is concisely stated in many of our state Constitutions. For example, the bill of rights of Pennsylvania says:

> All men are born equally free and independent, and have certain inherent and inde-

¶ "AMERICAN *industry today is threatened by a foreign invasion. It is not an invasion by force of arms—not at this time. It is an invasion of foreign ideas—false, subversive ideas, which would have us surrender our birthright for the chains of slavery.*"

> feasible rights, among which are those of enjoying and defending life and liberty, of acquiring and protecting property and reputation, and of pursuing their own happiness.

The Constitution of Wyoming, adopted in 1889, declares:

> Absolute, arbitrary power over the lives, liberty, and property of free men exists nowhere in a republic, not even in the largest majority.

In those various expressions this basic idea recurs over and over again —the newest, the most modern, the most truly revolutionary idea in all the history of man in his relation to government—and it is that power, as a matter of natural right, belongs to the individual, and that government should have and exercise only so much of that power as is expressly and clearly given to it by the governed; and that, above all else, there are certain powers over the lives, the liberty, and the property of freemen which cannot be bestowed upon government in America even by the largest majority.

This is the American idea, or ideology if you please, which of late, in the past fourteen years, has been submerged (temporarily only, we hope) under a flood of old, reactionary, feudal, autocratic, socialistic, communistic, totalitarian ideologies, which are mere throwbacks to the days of absolute monarchs, of serfdom, and of slavery—to that long history of man during which he was only a ward of the state, and government in its various absolute forms was held to be the source of wisdom and of progress.

It is, indeed, a foreign ideology which teaches that government is the most reliable source of all good things for the citizen. We see and hear expressions of it daily in the humble and respectful petitions for handouts from Mr. Big, the Great White Father or his local satrap—in the self-deprecating agreement that this or that undertaking is too difficult for mere citizens and must be turned over to government; and in the turning to government to build our houses, to spend our money, to feed our children, to advise us in the most intimate details of living, and to take care of us in sickness and old age.

In the older days, the kings and their propagandists cultivated the myth that there was a divinity and a sacredness about government—the king, and his family, and his henchmen —which gave to them grace and wisdom far above that of the mere subject. Thus through the ages the mass of subjects were taught it should be their pleasure to pay taxes and give up their lives for their master, the government. And it was this ideology, an ideology which idolized those in government, and degraded those not in government, which the old American resented and rejected with wrathful indignation. Nothing would more quickly arouse the scorn and contempt of the American of older generations than the spectacle of fully grown, able-bodied men, fawning upon and begging favors from another man because he had a title or had sought and obtained, by the suffrage of a free electorate, a high office. The old American respected achievement, whether in business or in politics, but respect for achievement was one thing, and the bended knee and supplicant hand was quite another.

How, then, has it come about that in our day this independent, upstanding, self-respecting American at-

Sacredness about Government

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titude—this ideology which was both American and America—how has it been so widely supplanted? The complete answer is as yet shrouded partly in mystery, and cannot yet be clearly seen, and even so much of it as is known is too long for detailing here. We do know, however, that this second American Revolution, this abandonment of the Great American Experiment, and return to the outworn and reactionary ideology of another world, was in part engineered and planned by individuals and groups, some of whom were aliens and some of whom were native-born American citizens, and some of whom knew what they were doing and where they wanted to go, and others of whom were mere dupes expressing various types of resentment at what they conceived to be neglect or lack of appreciation by their fellow Americans of their peculiar types of ability, or lack of ability.

The first step (as Garet Garrett points out in his revealing treatise, *The Revolution Was*) was the seizure of power, and that was accomplished in the first hundred days of the New Deal in 1933—that hundred days which undid the work of a hundred years by concentrating again in the hands of a central government the powers over money, property, and the economic pursuits of the citizens which it has been the primary aim of the Constitution to secure to the individual citizens as freemen.

IN a time of depression, when many people were suffering from what seemed to them to be great losses and hardships, and under the false representation that nothing like this had ever happened before in America, and the promise that if you would only trust in an omniscient government in Washington, nothing like it would happen again,

a panicky Congress of the United States surrendered enough power to the Federal govenment so that the power of initiative in all major economic pursuits within our country has since rested with a few men in government instead of with the people themselves.

Since then, the American people were swept along upon a flood of promises and even bribes (with their own money). Their attention was distracted and enthusiasm whipped up by first one measure and then another, all represented as being designed by the inspired wisdom of the supermen in Washington who would relieve us of all our ills, take care of our mortgages, pay our debts, raise our prices, save our soil, plan our farms and all living things thereon, and generally relieve us of all ills and worries from birth to death.

No longer, we were assured, was it necessary to pursue happiness—that idea of pursuing happiness was an old, reactionary Tory idea. Happiness was now to be brought to us and delivered fresh and made to order each and every day. And if anyone dared to suggest that all this was costing somebody a lot of money, and that the people were losing their self-reliance and their capacity for self-discipline and hence their freedom, and that there would come a time when we would find we had simply been permitting government to spend our stored-up wealth, and that we would awaken one day in an impoverished country, with a people who were weak and debauched—well, any such suggestions as those obviously came from selfish, old-fashioned reactionaries who never had a generous thought in their lives, who had no social consciousness, and who were only happy when everyone around them was impoverished and suffering.

GOVERNMENT is also in league with certain groups of citizens, granting preferential powers and exemptions from law to these groups—empowering them to use force and economic, as well as more easily understood, weapons denied to others. In short, we find that government is not performing its primary function of restraining men from injuring one another, but actually is assisting certain groups, and particularly favored labor organizations, to use force, threats, and conspiracy to intimidate and do violence to individuals and groups, to entire communities, and even to the nation itself. No bolder or more flagrant violation of fundamental rights was ever countenanced by any civilized modern government than these outrageous, wholesale violations of all laws against violence, conspiracy, and highway robbery which have been not only winked at and connived in by government agencies, but actually approved by the Supreme Court of the United States.

Government, as a competitor with its own citizens in various lines of endeavor, has now become so commonplace as scarcely to excite notice. As such a competitor, government uses the credit of its citizens and thus borrows their wealth at a rate more cheaply than the citizens can borrow for themselves. With taxes representing one of the principal items of cost of doing business, government further takes grossly unfair advantage by exempting its own business ventures from taxation while increasing the burden on its

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citizen competitors to make up the deficits on government enterprises. And then the agents of government boast of the cheaper housing, the lower lending rates, or the lower rates for utility service which government thus provides—and uses these citizen-subsidized rates as an argument for further encroachment upon the field of private enterprise.

THIS flood of alien ideologies which submerged our American faith was in part planned and engineered by groups and individuals who knew what they were about. Fortunately for those who want to explore the plans and methods used there is a considerable written record—a whole library, in fact—of the boastings and even detailed directions which disclose a lot of the plans and schemes for depopularizing old American ideology and repopularizing the more ancient ideologies which make possible the all-powerful state.

For example, George Soule, an editor of the left-wing *New Republic* (prior to Henry Wallace), in 1934, wrote a book entitled *The Coming American Revolution.* That book is devoted to discussing both the ways and means of destroying the old American ideology, and of selling the Old World ideologies as something new and better. If you are interested in that sort of thing, you must read George's book. I give you a sample. He says:

> The intellectuals play a large part in revealing the incompetence of the old regime, in ridiculing its corruption, in shifting loyalties to new ideas and leaders. There is a ferment of opinion which prepares the way for a change. People in general lose confidence in the old regime. The old rulers begin to split and lose faith in themselves.

Again he says:

> Even the capitalist classes themselves are divided by a severe crisis. . . . Already the more sensitive of the writers and teachers have, with surprising unanimity, ceased celebrating the virtues of the old order and embroidering its traditions, but rather have been busy exposing its failures and corruptions and ridiculing many of its leading figures.

And, at another point, he further illuminates the problem with these words of wisdom:

> . . . new leading ideas which challenge the old, like social planning as opposed to automatic regulation through self-interest, are beginning to take form. They have changed the opinions and attitudes of small numbers of persons in key positions.

THERE is the method, the *plan* which has worked so well. Through ridicule, such as attaching derogatory adjectives to "thrift" and "self-reliance" and "initiative" and "profits," and even "honesty" and "hard work" and "patriotism," you discredit these attitudes toward life

¶ "GOVERNMENT, *as a competitor with its own citizens in various lines of endeavor, has now become so commonplace as scarcely to excite notice. As such a competitor, government uses the credit of its citizens and thus borrows their wealth at a rate more cheaply than the citizens can borrow for themselves. With taxes representing one of the principal items of cost of doing business, government further takes grossly unfair advantage by exempting its own business ventures from taxation . . .*"

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which were basic virtues in the old America; and you split the advocates of the old order, while getting your revolutionists in key positions in government, schools, on the radio, as writers for movies, in the press, and elsewhere.

There are certain symbols of the old order which must be discredited in order to prepare the way for their opposite. Henry Wallace spoke sneeringly and disapproving of "Bill-o-Rights" democracy. The Communists and their fellow travelers are experts at choosing words and phrases which undermine confidence in and heap ridicule upon hallowed American institutions such as "private property," "the home," "the church," "the Constitution," and the beliefs which were inherent in the American way of life, such as the belief that the way to have more was to produce more, and the belief in the common interest in the success of the business on the part of both employer and employee.

We might also note in passing the most successful single device of debate and propaganda which has been used by the foreign ideologists. I refer to the device of the offensive. It simply requires that never in a debate in which you are trying to sell Communism or Socialism do you permit of any comparison between the achievements of capitalism and these other "isms." Oh, no, not that. Always, you talk about the failures of capitalism; never about the success of Socialism or Communism. Always talk about the depressions which occur under capitalism, about the men who were corrupt under capitalism, about the examples of greed and graft, the wholesale murders and the wholesale thefts of all property by the all-powerful clique in control of the state under Communism or Fascism. The technique is to keep the capitalist defending some of the shortcomings of his system, and leave to inference the idea that there are not worse defects under the other system! That technique has been the most devastating of any used. Through it, and the use of motion pictures, magazine articles, public speeches, radio debates, and forums in which that device has been employed, the loyalties of millions of Americans have been undermined or at least subject to confusion without most of those so victimized being aware of it.

We have now reached the point where the inevitable question is raised: "But what do you propose should be done? What constructive suggestion do you have to offer?" I would answer: The constructive alternative to a destructive program is first of all to stop it. There are no constructive suggestions for continuance of measures which lead to disaster except the substitution of safe and sane measures. If you find a wayward child hacking a piece of valuable furniture, your constructive suggestion is that he at once stop working on that furniture; not that he substitute a hatchet for his axe.

We hear many demands that it is up to those of us who insist upon abandonment of the road to Moscow to suggest a median course which might end up in Socialist Britain or in some other destination where freedom is as yet only half destroyed. Those who insist on such compromises, on the retention of the collectivism which we now have but on going no further, are the defeatists of our day. They are advocating a

course which leads to the inevitable end of statism, of collectivism in some form. They are advocating that we give up the fight for freedom and adopt the course which leads surely and not very slowly to a lower standard of living, to loss of the American secret of progress, to stagnation and decay. There is no compromise between collectivism and American individualism. To say that modern life is too complex and advanced for our old system of individual freedom, is to say that because we have made so much progress we must now surrender the freedom which made it possible. That just doesn't make sense.

What should we do about it?

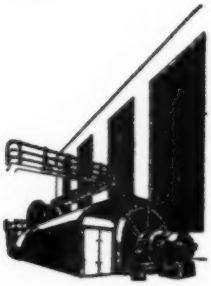
I CHALLENGE the defeatist slogan that there is nothing each of us as individuals or as groups of individuals can do about it. Actually, we haven't even begun to try. We are still treating this constant and immediate threat to our own lives and to the safety and freedom of our children as though it was just a side issue—something to give a little thought and study to in our spare time! If we were really awake to the meaning of this invasion of foreign ideologies, to the certainty that unless checked the program of collectivism on which our country is now embarked will lead to the loss of America's contribution to civilization, to the degradation, and it may well be to the enslavement of our children—if we were awake to that, we would place the duty of fighting these ideologies at the very forefront of our daily activities.

If a foreign army had invaded our shores, and was advancing inland, we would not consider that invasion as a side issue, to be handled only in our spare time, and as something which we would subordinate to our business. No, we would make that invasion, and its threats to our lives and the freedom of our children, the very first concern of every waking hour. Well, this invasion of foreign ideologies has advanced far beyond our borders; it is in our midst, in our homes, in our schools, in our churches, and in all our political parties.

I DO not agree that there is nothing we can do. Patrick Henry and his compatriots did not believe there was nothing they could do, in their day, to meet the invasion of fellow-Englishmen who threatened colonial liberties. We can at least utilize every opportunity—in business, in social gatherings, in our contacts with the church and the school, and the newspaper and the radio, and in every other of our opportunities which are thus transformed into responsibilities. We can raise our voice and use our influence to rescue America from the clutch of these foreign ideas which are striving to strangle that which was American.

I end with that quotation from Patrick Henry:

"This is no time for ceremony. The question before the House is one of awful moment to this country. For my own part, I consider it as nothing less than a question of freedom or slavery; and in proportion to the magnitude of the subject ought to be the freedom of the debate. . . . Should I keep back my opinions at such a time through fear of giving offense, I should consider myself as guilty of treason toward my country."



A Chemurgy Program for Power!

Description of an adventure in community enterprise taken by a pioneering electric utility as evidence of its good citizenship in an agricultural area.

By RALPH E. GALE
GENERAL SALES MANAGER, IDAHO POWER COMPANY

CHEMURGY is one of those new words which cannot even be found in most dictionaries, because it was only coined within the past few years. But even in such a short time its meaning has become pretty well-known. Chemurgy might be defined as the application of chemistry and applied sciences toward greater industrial utilization of various raw materials which cannot be so used in their natural state. Chemurgy is, essentially, the conversion of some abundant and relatively inexpensive raw material by chemical processes into valuable and desirable commercial products, such as building material, paint, stock feed, and so forth. Often the raw material is an agricultural surplus product, by-product, or even an item which has heretofore been considered waste. The magic resulting from systematic chemical research has rescued and salvaged many items which can now profitably be grown on the farm as a result of such chemical processes.

From the viewpoint of the agricultural community, a chemurgy program can mean more than a mere solution to residue, by-products, or surplus crops. It can, under some circumstances, actually create money crop on lands which could not otherwise be put into profitable production. This is because some crop yields, useful for chemurgy processing, can be produced on certain land or under certain growing conditions, which would not permit ordinary agricultural operations common to the particular area. Likewise "chemurgy crops" can sometimes be coördinated with a program for rotation and other measures for soil conservation and enrichment.

But it is obvious that any such chemurgy program requires considerable scientific research and experiment, far beyond the resources of the individual farmer to undertake on his

own. Furthermore, since such research and experiment by its very nature must be strictly local—to see how the particular farm land in the particular area can be most effectively utilized—it follows that the community, or some institution or organization with a special interest in the community, is the logical agency to carry on the necessary work if it is to be done.

It was the consideration of these factors which led the Idaho Power Company to undertake its present chemurgy program. This company's operating area is primarily agricultural. This area embraces about 16,000 square miles, approximately the size of Connecticut, Rhode Island, New Jersey, and Delaware. It has a population (about 250,000) of less than 4 per cent of the total in the four states mentioned. Yet, 80 per cent of the basic income of this company's customers is from agriculture or agricultural processing. The major items are livestock (cattle, sheep, and hogs), dairy products, wheat, potatoes, beans, onions, fruits, and vegetables. Obviously, it is enlightened self-interest, in plain language "good business," for Idaho Power to be aggressively interested in the success of agricultural enterprise and new industries related to the success of that enterprise.

The company found, moreover, that the very nature of its business put it in a strategically advantageous position to assist in such agricultural and industrial development. Its wide contact with the individual farmers, plus its own interest in promoting the use of electric service, required for the processing of chemurgy crops, gave the company a natural setup. With its operating organization already in existence, and widely deployed throughout the vast area, it was obvious that the electric utility company might undertake this more effectively than other agencies. Since the company always sought to be "a citizen wherever we serve," the management felt that taking the proper steps to promote farm chemurgy would probably be one of the best ways of demonstrating good citizenship and interest in the local farm community.

Chemurgy is, for example, very applicable to the economy of the Snake river valley. Although this is a rich agricultural area and the income per farm is considerably above the national average, the Snake river valley has two economic handicaps—first, lack of dense population to furnish local markets and, second, long distance to large population centers and high transportation costs. The Snake river valley, in fact, is about 2,000 miles northwest of the center of population for the United States. It is also about 400 miles southeast of Portland, 500 miles southeast of Seattle, 600 miles northeast of San Francisco, and 800 miles north of Los Angeles. Thus farm income is directly related to the price of the product, the cost of production and transporation. Chemurgy is analytical of all such factors, including, of course, the determination of the most profitable crops for the locality; development of new crops; and development of new, nonfood uses for established farm crops.

C. J. Strike, president and general manager of Idaho Power Company, became interested in farm chemurgy in April, 1938, when he attended the

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fourth annual meeting of the Chemurgic Council at Omaha, Nebraska. After that he started Idaho chemurgy. The writer has been secretary of the organization since its inception.

A test-planting program created wide interest in many crops such as sage, caraway, coriander, anise, savory, and safflower. The University of Idaho agreed to conduct an organized test-planting program on a 10-acre project at Parma, and a number of individuals started small commercial plantings of many of the crops tested the preceding year, some of these being up to 8 acres and producing as much as $6,000 gross income.

TEST planting was interrupted during the war because of labor shortage, but it is being revived. It is expected that the commercial planting of safflower will be undertaken during the coming season. We are interested in safflower as it is an oil-producing seed that also has a high protein residue suitable for stock feed. Idaho ships in about 30,000,000 pounds of high protein stock feed, mostly soybean and cottonseed meal or cake. The state produces 25,000,000 bushels of wheat that at times is difficult to market, and test-planting results indicate that safflower can be successfully grown on at least a portion of the million acres usually planted to wheat. The oil from safflower is desirable in the paint and varnish trade, which, under normal conditions, would have a value *about three times* that of wheat per pound. This oil would be more marketable than wheat. It can support higher transportation charges due to higher value per ton, and this crop would require oil-extraction plants that could utilize excess farm labor during the off season.

We hope to experiment this year with other oil-producing crops such as perilla, sesame, and the dwarf-type sunflower. The possibility of the dwarf-type sunflower and safflower as crops to replace some wheat acreages, when a surplus in the wheat supply develops, is particularly interesting.

RESEARCH projects investigated the possibility of using various farm wastes such as potato pulp, pea cannery, asparagus cannery, potato dehydrator, chicken feather wastes, and sawmill wastes. Plastics were produced from all of these items, but none of them, except the sawmill waste, indicated a product with such desirable characteristics that it could be successfully commercialized. The research of sawmill waste resulted in the construction of a pilot plant, and this experiment will be continued.

Most successful so far of the Idaho chemurgic projects is the utilization of cull potatoes, formerly regarded as worthless, for the manufacture of white potato starch. This program has expanded and, at the present time, there are four plants in operation in southern and eastern Idaho producing this year about 28,000,000 pounds of white potato starch worth approximately $1,700,000. This is a new industry for the state. In addition, approximately 4,000,000 pounds of dessert base is produced at the plant in Blackfoot. The dessert base is a processed starch very similar to minute tapioca.

Research on pulp recovery has resulted in thousands of tons of potato pulp being recovered and fed to live-

stock in a semidry form. At one plant this pulp is recovered and carried on into the dry stage so that it can be marketed as stock feed or low-grade starch, the dried pulp carrying approximately 60 per cent starch and sugar content. Laboratory research has demonstrated that syrup, alcohol, vinegar, or glue can be produced from this pulp and research is continuing to determine the possibility of finding other uses and to perfect processes to put some of these products into commercial production.

Idaho Power Company helped build the starch factories, and it has materially encouraged test plantings and laboratory research toward utilization of farm waste. In the postwar period, when the major farm problem will undoubtedly be one of marketing rather than production, chemurgy will be an important factor in helping to solve some of our marketing problems.

The End of the Refunding Era

"THE greatest corporate bond and preferred stock refunding era in American history appears to be coming to an end. Over the past decade, upward of $20,000,000,000 of corporate bond and preferred stock issues were refunded with new securities, primarily to take advantage of the lower level of interest rates.

"This vast refunding operation reached its peak in 1945, when more than $4,500,000,000 of new securities were floated to refund outstanding issues. Tax laws gave further encouragement to such operations. As quotations for high-grade bonds backed away from their historic peak levels in the closing months of 1946, however, the volume of refunding contracted sharply.

"With prospect for a more stable level of long-term interest rates in the future, it is unlikely that corporate refunding operations will again assume the large proportions of 1945 or some other recent years. . . .

"The indicated end of the era of large-scale refunding of corporate bond and preferred stock to take advantage of lower interest rates does not presage a decline in investment banking activity, however. The curtailment of refunding activity is occurring at the very time when capital flotations for new money are reaching the highest levels since the 1920's. Last year, corporate security offerings to raise new capital materially exceeded refunding flotations in volume. This year, it is probable that flotations to raise new money will expand further, at the same time that refunding activity declines."

—EDITORIAL STATEMENT,
The Journal of Commerce.

The Electric Heat Pump

This expanded development of the electric refrigeration cycle, designed to heat houses in winter and cool them in summer, is an outstanding example, says the author, of private capital's constant interest in raising the standard of material well-being.

By CHARLES TATHAM, JR.
VICE PRESIDENT, INSTITUTIONAL UTILITY SERVICE, INC.

It seems quite safe to say that nothing has contributed more to the welfare of mankind, to the advancement of science, and to the development of our present-day civilization, than our modern techniques of producing and utilizing electric energy.

Until very recently, a last vital service has been largely beyond the scope of electricity for economic reasons of cost. This service is heating, space heating on a sufficiently large scale to warm our houses at a cost competitive with other fuel-burning methods. The promise of this service, however, has now been given and, if our engineering ability and ingenuity live up to their reputation, the promise will be kept.

The answer is the heat pump, an expanded development of the electric refrigeration cycle, which will heat our houses in winter and cool them in the summer. Last fall, E. N. Kemler, head of the engineering research division of the Southern Research Institute, said: "It is difficult to emphasize the importance of the heat pump to the electric utilities and to the public. To the utilities it offers a potential load far exceeding that from any other source in the home. To the public, it offers for the first time, at a competitive cost, automatic year-round home comfort; that is winter heating and summer cooling with the same equipment, utilizing electricity."

Basically the heat pump is not a new development, although its application to house heating on a commercial scale has only recently started. Its ultimate potentialities have a tremendous appeal to the imagination, as evidenced by a recent New York newspaper headline which forecast a 2,000,000-unit market for it over the next several years and went on to describe it as one of the most promising postwar home appliances.

The importance of this potential load to the electric utilities can be quickly indicated. The average annual electric

requirement to operate a heat pump during the heating season will range from about 4,000 to 9,000 kilowatt hours, depending on the location and temperature characteristics. Multiply this by 2,000,000 and you get an additional load of from 8 to 18 billion kilowatt hours. This is equal to from 21 per cent to 47 per cent of *total* domestic kilowatt-hour sales in 1946. And another 4 billion kilowatt hours would be required to operate these heat pumps for cooling during the summer.

This, however, is far from the whole story. It is estimated that in 1940 the total residential consumption of fuel for heating was about 5,038 trillion BTU. Of this amount, the useful heat was estimated at 2,382 trillion BTU, or about 47 per cent, the balance representing heat lost up the chimneys. Translated into equivalent electric energy, this "useful" heat would amount to approximately 700 billion kilowatt hours.

THE total residential consumption of electricity in 1940 was only 23.3 billion kilowatt hours, which figure increased to 34.2 billion in 1945. Electric sales for all purposes in the latter year aggregated 193.6 billion kilowatt hours. While it is obvious that the entire residential heating market can never be served electrically, nevertheless there is a very substantial amount of business that the electric utilities could advantageously obtain. The combined winter and summer operation of the heat pump, moreover, provides a load factor that is definitely attractive.

As stated, the heat pump is essentially an enlarged application of the ordinary electric refrigerator. Expressed in nontechnical language, it consists of a closed system through which a refrigerant, such as freon, is circulated. The main parts of the system consist of an *evaporator,* where the cold liquid refrigerant absorbs heat from the surrounding space and, in so doing, changes from a liquid to a gas; that is, evaporates. It then passes through a *compressor,* where the refrigerant, now in gas form, is compressed, which greatly raises its temperature. Then it goes through pipes or tubing to a *condenser,* where the now very hot gas is condensed back to a liquid state and gives up the heat absorbed in the evaporator plus the additional heat created by compression. The mechanism is run by an electric motor, which drives the compressor, and is automatically controlled by thermostats. The entire unit is enclosed in a suitable cabinet measuring approximately 3 feet wide by 6 feet long and 6 feet high.

IT is obvious, of course, that there must be some exterior source of heat that can be constantly drawn on. This source of heat is in the outside air, in bodies of water, such as lakes or rivers, in ground water, such as wells, and in the earth itself. Two basic types of heat pump have been developed, one which absorbs heat from the outside atmosphere, called an air-to-air unit, and one which obtains heat from the ground, or from ground water, called a ground or water-to-air design.

The application of the air-to-air system lends itself most satisfactorily to locations where the outside temperature does not fall much below 40 degrees; that is in the Southwest and southern areas of the country. In this type of unit, air is drawn in from out-

side the house, passed over the evaporator where it gives up a certain number of BTU's of heat, and is expelled outside again at a reduced temperature. The cycle is constant (while the heat pump is in operation) and consequently a great many BTU's of heat are obtained. For example, even when air is at a temperature of zero degrees it contains 73 BTU's of heat in every pound.

IN the ground-to-air design, one method is to bury a coil of copper, or other suitable metal tubing, in the earth outside the house. The refrigerant is circulated through this tubing, absorbing ground heat, and it then passes through the compressor in the heat pump located in the cellar, and on through the cycle described above. Another method is to circulate water through a closed pipe sunk deep in the ground. The water absorbs ground heat which in turn is passed on to the refrigerant in the heat pump.

In both systems the heat is transferred from the condenser to the interior air, which is circulated through the house in the usual manner. In summer, for cooling purposes, the heat pump automatically reverses itself and absorbs heat from the air within the house, expelling it outdoors. The heat pump can also be operated in conjunction with a hot-water heating system, although this would not give the summer cooling effect. In this connection, the use of radiant heating, with relatively low temperature hot water flowing through pipes laid in the floor, or baseboard molding ducts, would appear to have very interesting possibilities.

THE ground-to-air job appears particularly suited to the colder sections of the country, since ground temperatures range from 40 to 50 degrees even in the northern parts of the country, and vary within a range of only 1 or 2 degrees from season to season.

The reverse refrigeration cycle has, of course, been known for many years. As far back as 1852, Lord Kelvin, the distinguished British physicist and mathematician, who did a lot of work on heat and electricity, proposed a "warming engine," which was nothing more than a mechanical refrigerator in reverse, pumping heat out of the air.

In Switzerland, a number of water-to-water heat pumps have been in successful operation for many years, where large supplies of lake water are available as a source of heat, and other fuel costs are relatively high.

Philip Sporn, executive vice president of American Gas & Electric Company, has been one of the principal sponsors of heat pump development in this country. He and his associates have

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been working on it for some fifteen years. In June, 1944, he presented a comprehensive paper on the subject before the Edison Electric Institute, in which he said, "There are five principal services that electricity performs in the modern home today: lighting, refrigerating, cooking, water heating, and operation of miscellaneous appliances. The sixth, and most important function, more important, in fact, than all other five functions put together—namely, heating—is today still performed nonelectrically. It can in most cases be performed electrically by the heat pump."

ELECTRIC space heaters, of course, have long been familiar. These units involve resistance heating, which requires a great deal of electric energy flowing through the coil. Under present costs of delivering electricity to our homes, they are expensive to operate; for the amount of heat delivered they cannot begin to compete with coal or oil, or even gas.

The heat pump, however, overcomes the cost handicap of straight electric heating. It does this by having what is known as a "coefficient of performance" of from 3 to 5. This means that it delivers from 3 to 5 times as much heat energy as it requires in the form of electric energy for its operation. This is based on the fact that the electric energy used in the heat pump's operation is itself given up in the form of heat and, at the same time, a large amount of additional heat is obtained from the outside source, the air, ground water, or the earth.

This characteristic of the heat pump is what gives it its basic competitive advantage. Mr. Sporn estimated that an average well-built, 6-room house in the vicinity of Pittsburgh, in a typical year, would require approximately 8,900 kilowatt hours for heating and about 2,000 kilowatt hours for cooling in the summer. At a rate of 1½ cents per kilowatt hour, this would mean a winter's heating bill of about $135 and a cost of about $30 for cooling in the hot months.

LAST fall A. C. Crandall, vice president of Indianapolis Power & Light Company, reported that in a test conducted during the 1945-46 heating season, in a 5-room house in Indianapolis, a heat pump installation consumed 6,357 kilowatt hours, of which 6,013 kilowatt hours were used by the motor driving the compressor, and 344 kilowatt hours by the blower fan.

There are at the present time at least three concerns manufacturing heat pumps on a commercial basis. The Muncie Gear Works, Inc., of Muncie, Indiana, is turning out a unit under the trade name Marvair. M. M. Smith, vice president of the company, recently told the writer that they have had Marvairs operating in Muncie for three seasons. One of these units has been in a private home and the total electric input per heating season was 8,825 kilowatt hours. The total degree days for this area at 65 degrees was 5,278. However, he pointed out that the home was maintained at 78 degrees night and day, which would make the degree days as applied to home temperature come to 6,318. The BTU load of this home was approximately 50,000 BTU's per hour loss at zero, and from these figures he said that their formula of operation cost was one kilowatt hour per degree day of 40,000 BTU load.

XUM

Heat Pumps in Switzerland

"In Switzerland, a number of water-to-water heat pumps have been in successful operation for many years, where large supplies of lake water are available as a source of heat, and other fuel costs are relatively high."

THE Marvair is a ground-to-air job, utilizing the heat stored in the earth, obtained by pumping water through submerged piping. A closed U-shaped pipe circuit is enclosed in a 4- to 5-inch bore sunk some 200 feet in the ground below the operating water line. Since no water is pumped from the ground, there is no effect on the water level and there is no water to be disposed of.

The Muncie Gear Works plans to produce 10,000 Marvair units this year and hopes to step up production to 50,000 units in 1948. Mr. Smith, who designed the units, said that recent installation costs were approximately $1,650 for a 3-horsepower unit, and $2,300 for a 5-horsepower job, including the well installation. He believed that future installations could be made as low as $1,000, and said that they were planning on a mass production of Marvairs for small homes which he thought could be installed for as low as $600, exclusive of the ground heat exchanger.

Last fall the electric power board of Chattanooga installed five Marvair units in homes in that city. C. B. Osborne, sales manager of the board, informed the writer that he estimated that the kilowatt-hour consumption of the 3-horsepower unit in his own residence would be under 5,000 kilowatt hours for a heating season. His house is a 6-room brick construction with an hourly heat loss of 66,000 BTU.

HEAT pumps have been manufactured on a production-line basis by Drayer-Hanson, Inc., of Los Angeles, since March, 1946, and it has more than 200 units installed and in operation. The company's first reverse cycle installation was completed in 1938 for the Southern California Edison Company, and it has given good service ever since. Its product is called the Airtopia, and it is described as a fully automatic air-conditioning machine for all-year use. The Airtopia operates on the air-to-air principle; it obtains heat from the outside air when heating is required, and dissipates heat to the outside air when cooling is required. Last

December, the company reported that the retail prices of the four sizes of Airtopia units being produced were $2,100, $2,750, $3,800, and $4,850, respectively, plus freight charges from the factory, and plus the charges for duct work where required. The smallest size is for heating and cooling of small private homes and apartments up to six or seven rooms, for office suites and small stores. The larger units are for applications requiring greater capacity.

The operating cost of the Airtopia for heating purposes is approximately equal to the cost of conventional coal, oil, or gas-fired furnaces, where the cost of electricity is 1½ cents per kilowatt hour as compared to coal at $14 per ton, oil at 9 cents a gallon, and natural gas at 70 cents per thousand cubic feet.

THE company has also developed a unit similar to the Airtopia which uses water as the medium of obtaining and dissipating heat for use in colder climates where the outside temperature falls below 10 degrees. The company recently informed the writer that its production schedule for 1947 called for approximately 1,200 units of the air-to-air design and a similar number of units of the water-to-air design.

The Terra Temp Company, of Indianapolis, is manufacturing a heat pump which has responded favorably to the most severe tests. It operates with a ground coil through which the refrigerant circulates, absorbing heat from the earth. The company claims that where the electric rate is one cent per kilowatt hour, Terra Temp operation compares with heating with coal at $10 a ton, and with 1½-cent electricity it compares with $15 coal.

The electric utility companies, of course, have evinced keen interest in the possibilities of the heat pump. Last summer two special meetings were held, under the sponsorship of the American Gas & Electric Service Corporation, to discuss its development, and more particularly its potentialities, as a residential heating and cooling system.

THE first meeting was held in New York in June and was attended by representatives of twenty-three companies. Mr. Sporn opened the meeting by saying, "It has been stated that the all-electric home is not possible without the heat pump and I believe the further we get into the problem the more we are convinced that this is so."

H. M. Sawyer, vice president of American Gas & Electric, pointed out that, if the electric business is to continue to grow, all domestic uses must be actively promoted. The necessity for the industry to meet the competition of gas house heating, with its associated gas cooking, water heating, and refrigeration, would, he felt, be met by the heat pump, with its efficient heating performance and its possibilities for summer cooling.

Representatives of the Connecticut Light & Power Company and the New Jersey Power & Light Company felt that there would be little difficulty in finding customers for the heat pump, even though its potentialities appeared to be more limited than in the southern sections of the country. It was brought out that the heat pump would have considerable value in protecting and gaining other types of load against competitive fuels. Where gas competition is keen, it would help protect the cooking as well as the water-heating load.

A SECOND meeting was held in August in Birmingham, Alabama, and was attended by representatives of twenty-five companies. Thomas W. Martin, of Alabama Power Company, opened the meeting, saying, "Your presence here today reflects your own belief that the heat pump as a device for domestic and industrial heating and summer cooling is of great importance to the public and to the electric industry."

S. W. Andrews, rate engineer of American Gas & Electric, pointed out that "We are pretty well convinced that in the years to come, unless we can offer to the builders of new homes electric heating, that our continued growth in the field of selling service to residences is more limited than we like to think." He went on to say, "It is our hope and our belief that the initial cost, when the manufacturer gets into production of these units, will not exceed the complete cost of a separate air-conditioning unit plus a separate fuel-fired system."

At this meeting the majority of the companies represented operated in the southern and southwestern states, and the cooling and air-conditioning aspects of the heat pump were stressed. Practically all those attending expressed great interest in the program and promised that their companies would coöperate in every way possible.

As a result of these meetings a specific program was set up under which manufacturing specifications were agreed upon and submitted to various manufacturers. The utility companies pledged themselves to purchase and install several hundred units, and the first deliveries are expected later on this year.

The broader implications of the heat pump provide a fascinating field for speculation. Essentially, it means an efficient utilization of the greatest, most inexhaustible source of heat that is available to us, the sun. How long can we afford to go on burning up our coal and oil and natural gas resources? The supply is not unlimited and it is not being replaced. Our known oil reserves are diminishing. In a recent report on natural gas reserves, the Federal Power Commission stated, ". . . the presently known or proved gas reserves are at an all-time high . . . This does not mean, however, that gas reserves are unlimited or that discoveries may be counted upon for a long period to equal or exceed going or increasing rates of production. It is an accepted fact that natural gas is a wasting asset and that for every pool discovered, there is one less to be found."

Both gas and coal are becoming increasingly important as raw materials to be utilized in making motor fuels and synthetic chemicals. And the de-

¶ "ELECTRIC *space heaters . . . have long been familiar. These units involve resistance heating, which requires a great deal of electric energy flowing through the coil. Under present costs of delivering electricity to our homes, they are expensive to operate; for the amount of heat delivered they cannot begin to compete with coal or oil, or even gas.*"

mand for motor fuels and the importance of synthetic chemicals will, without question, continue to grow at an accelerated rate.

It appears entirely safe to predict the successful application of atomic fission in our central-station electric-generating plants. This will mean unlimited production of electricity without consuming wasting assets. The utilization of this electricity, together with the virtually limitless resources of solar heat, appears, from a long-range economic standpoint, to be a "natural."

This is quite apart from the tremendous stride forward in living conditions that the heat pump offers. As Dr. Kemler says, "The heat pump offers a type of heating that is not otherwise generally available, that is, combustionless heat. The complete elimination of combustion with all its unsatisfactory characteristics such as dust, dirt, smoke, explosion, and fire hazards, makes the heat pump an unusually attractive type of heating for the home, as well as for commercial establishments."

ALTHOUGH all the problems are not yet solved, and further research and experimentation must be carried on, nevertheless it appears that the heat pump has come of age.

The development of this improvement in house heating by the electric utilities of the country is an outstanding example of private capital's constant interest in raising the standard of material well-being.

Local Government Is Better

"I BELIEVE *that we should return in this country to the principle of local self-government. The Washington bureaucrats are today exercising far too much power over the daily lives of their fellow citizens. This sprawling Federal bureaucracy should be largely reduced by the present Congress. If this Congress does not do so, in my judgment the people will elect one that will. For my part, I believe in the principle of Thomas Jefferson that a people is best governed that is governed the least, and that if the local subdivisions, including the states, are permitted to discharge their constitutional functions, the amount to be done in Washington can be and should be reduced to a minimum. Our experience has shown that centralized government in Washington is both inefficient and expensive, and I believe the people have had enough of it.*"

—JAMES P. KEM,
U. S. Senator from Missouri.

Washington and the Utilities

REA Co-op Crosscurrents

THE Rural Electrification Administration recently announced that four rural electric coöperatives in Missouri had received approval of a loan totaling $3,898,000 to purchase all rural transmission and distribution lines of the Missouri Edison Company. This development was noted in some quarters as evidence that REA had not given up its program of allowing the co-ops to buy out existing utility systems under some circumstances. It was this policy of encouraging acquisitions of existing tax-paying utility properties by co-ops which had aroused question, if not criticism, in some quarters of Congress.

About the same time came news that REA had turned down an opportunity of financing a 4-star municipal plant deal, which would have gone a long way towards retiring privately owned electric enterprise from the state of New Mexico. Four cities, Albuquerque, Las Vegas, Santa Fe, and Deming, and their fiscal agents, Kansas and Missouri bond houses, have been trying to swing a deal for acquiring the respective local properties of the Public Service Company. The cities asked REA to participate in the financing, but REA declined, which leaves the municipal plant program in New Mexico pretty much up in the air.

Guy Myers of New York, employed for fiscal agents of the New Mexico cities to buy stock in the Public Service properties from Cities Service Company, suggested the possibility that REA might retain title to part of the properties, such as generating plants and long-distance transmission lines. Cities Service, which owns approximately 65 per cent interest, is under orders of the Securities and Exchange Commission to dispose of the same, through its holdings in the Federal Light & Traction stock.

FROM neighboring Arizona comes word that the Pinal County Superior Court has declared invalid an attempt of a rural electrification co-op to buy the assets of the Eloy Power & Light Company. The suit was filed by citizens of Eloy and farmers in surrounding areas who contended that the Trico Electric Coöperative was not a public service corporation subject to the jurisdiction of the Arizona Corporation Commission, and that any contract by which it attempted to enter the field of public service was therefore illegal.

The Arizona court ruled that the co-op was not a public service corporation and did not have power to consummate the purchase agreement entered into with the private utility company. There was no court ruling on the question of the Arizona Corporation Commission's jurisdiction. The decision was expected, however, to set a precedent for other coöperatives throughout the state which may now be serving, or which may have plans to serve, nonmembers. For that reason a further appeal seemed likely.

Meanwhile, in the other direction, a modest movement of REA co-ops towards integration with private ownership was noted from imminent action of two REA California co-ops and another in the Midwest. The California situation results from a ruling of the California Utilities Commission early this year, to the effect that Mesa Electric Coöperative would have to obtain a state license and submit to the general rate jurisdiction of the commission before starting operation. No appeal from this ruling was taken to

the courts. Since then, the co-op has been in negotiation with Pacific Gas and Electric Company with the idea of selling out. REA's loan would be paid in full and the company has guaranteed to serve all those who signed up for service with the co-op.

The other California case dealt with the Pluma-Sierra Coöperative, also said to be negotiating for sale of its properties to Pacific Gas and Electric Company because of difficulties in obtaining generating facilities. Back in the Middle West the Kamo Coöperative is said to be in negotiation with Empire District Power Company over possible sale.

Although this trend is too small even to be worthy of the name of a trend, it has caused some little concern within REA. The reason for coöperative restlessness is believed to be threefold: (1) Unwillingness of the co-op to submit to state commission jurisdiction of its rates and services, etc.; (2) more satisfactory operation through affiliation with private management under some circumstances; (3) the desire of co-ops to conduct their own affairs without the assistance of REA's Washington staff and rid themselves of a debt obligation which involves so much Federal dictation.

REA Legislation

ASIDE from the annual wrangle over appropriations for loans, no new REA legislation was expected to be passed in Congress at this session. But there are two bills which may get as far as the hearing stage when Chairman Hope of the House Agriculture Committee gets his over-all survey of farm legislation going full tilt. One of these bills is the Harris Bill (HR 2709), which would amend § 4 of the Rural Electrification Act regarding loans to electric coöperatives. The present act provides that "no loan for the construction, operation, or enlargement of any generating plant shall be made unless the consent of the state authority having jurisdiction in the premises is first obtained." The amendment proposed by HR 2709 would continue this provision, but also would provide that, if there is no such state authority, the consent of the Federal Power Commission must be first obtained. The FPC would not be authorized to give such consent unless it first determines that the proposed acquisition, etc., "will result in a lower cost of electricity to the rural electrification project or projects to be served therefrom than could otherwise be obtained."

HR 2709 further provides that no loan shall be made (1) if such facilities are being used to serve persons within the boundaries of any city or village having a population of not in excess of 1,500, unless a majority of the consumers being served by such facilities have signified, by ballot, petition, or other means, their approval of the proposed acquisition; or (2) if such facilities are being used to serve persons within the boundaries of any city or village having a population in excess of 1,500. This bill is similar to § 3 of HR 5555, 79th Congress, also introduced by Representative Harris, upon which extensive hearings were held last year.

The Federal Power Commission is not recorded as in favor of HR 2709, although it would give increased authority to that agency. REA, of course, is actively opposed to the bill.

The St. Lawrence Again

WHETHER the new self-liquidating feature which Senator Vandenberg has put on the latest St. Lawrence seaway bill will float that project along any more successfully than in previous sessions in Congress remains to be seen. The self-liquidating feature consists of a provision calling for toll rates on the 27-foot seaway sufficient to pay for construction costs. These are estimated up to $600,000,000 for the United States, with additional amounts for New York state and Canada.

The new bill was launched under bipartisan auspices, in which the top majority and minority leaders, Senators Vandenberg (Republican, Michigan)

and Barkley (Democrat, Kentucky), and a dozen other Senators, mostly from the Lake states, joined in. The U. S. State Department set the ball rolling with an announcement that Canada had informally approved the new plan.

But it was Senator Vandenberg himself who threw cold water on any blazing hope that the bill would rocket through Congress to early enactment. He pointed out that the Senate Foreign Relations Committee had a heavy schedule and he doubted if hearings could be reached at the current session. A St. Lawrence seaway power bill minus the toll provision was approved by the Senate Foreign Relations Committee last year, but failed to come to a vote on the floor of the chamber. Washington observers were of the opinion that, even if the bill did manage to get through the Senate, it would face tough sledding in the economy-minded House of Representatives.

ODDLY enough it was the self-liquidating feature of the latest St. Lawrence seaway version which brought expressions of rather mixed opposition. This feature was designed to make the bill more palatable to Congressmen who have become hostile towards continued public works spending. But the Army Engineers, the Federal Power Commission, the New York State Power Authority (which would have operating control over St. Lawrence power for the state of New York), and a large segment of the New York delegation of Congress are reported to be skeptical over the toll idea.

Some of these opponents say it is not feasible to make the seaway carry a heavy debt load; others claim that the seaway costs will have to be partly repaid out of power revenues and might make power rates too high. The New York delegation fears damage to port business.

Even supporters of the bill admit that construction costs are double what they would have been in 1940. The measure also will bring forth new efforts to set a Federal power policy, because of the mixture of state and Federal power interests which would result. Staunch opposition from eastern and midwestern railroads and eastern coastal states can be looked for, with Gulf and southern states cool to heavy expenditures. REA Administrator Wickard, however, sounded the administration's opening gun early in May with a blast at high rates to co-ops in upper New York state. He called for St. Lawrence legislation.

Interstate Case Argued

CHARLES W. MCGEE, assistant general counsel for the Federal Power Commission, had an interesting exchange with members of the Supreme Court during the rehearing argument on the Interstate Natural Gas Company Case. This is the case in which an attempt was being made to have the Supreme Court review an order of the FPC which the company claims has the effect of regulating the production and gathering of natural gas, contrary to the intent of the Natural Gas Act.

Mr. Justice Frankfurter was attempting to elicit from the counsel, by questions, just what principle guided the FPC in determining where its jurisdiction began and where the process of "gathering" natural gas for a pipe line left off. Excerpts from the argument on this point were in part as follows:

MR. JUSTICE REED. Your opponents, as I understand it, state your position for you, and they say that the Power Commission takes the position that gathering ceases when the last flow-in comes from a well into the pipe line. Now, you deny that position, do you?

MR. MCGEE. No I do not deny it, because the gathering operations, if you have 20 wells in a line, and you get down to the twentieth well, and all the gas is then completely gathered—there may be some transportation, you would have to have it because you have a complicated field system—but at or near that twentieth well, the gathering operations of that producer or gatherer have been completed.

MR. JUSTICE REED. What is it? At or near does not help me very much. Does that mean anywhere in the field, so that having gathered from your 20 wells—say all of them are in the northern part of this field—and then carrying all of that gas to the Memphis line and delivering it to it 20 miles away?

MR. MCGEE. No, sir, that is transportation in interstate commerce and subject to the jurisdiction of the Federal Power Commission.

MR. JUSTICE REED. So if the Memphis line took it half a mile away from your twentieth well, then, the Power Commission would have nothing to do with it and could sell it for whatever they pleased?

MR. MCGEE. Yes, sir.

MR. JUSTICE REED. But if he went 20 miles, he could not?

MR. MCGEE. That seems to be the indication of the legislative history.

MR. JUSTICE FRANKFURTER. Does it (the distance the gas is transported by the producer and gatherer) make a difference whether it is 500 yards or 5 miles, assuming that physical gathering is at an end? From that point on some transportation is needed to get it to the pipe line?

MR. MCGEE. I suppose that if you construe the act strictly, that one mile would be perhaps the same as 10 miles. It is a question of whether the commission believes that, under the circumstances of the case, the operations are so local as to be without its regulation, or whether it is national in scope. . . .

MR. JUSTICE FRANKFURTER. The question of completion of gathering: Does that confine it to its physical content?

MR. MCGEE. On the question of where gathering ends and transportation begins? I think really that is a question of fact to be determined in each case. I think that no hard and fast rule can be enunciated by the commission or by the courts which can be applicable in every case, and under all circumstances. I think we must recognize that some gathering operations of a producer and gatherer or of a company otherwise a natural gas company may be somewhat complex, so that the determination of whether there is transportation in the jurisdictional sense may have to vary somewhat according to the facts in each case.

MR. JUSTICE FRANKFURTER. Well, with reference to what? You must have something upon which to project the matter in order to make that fact relevant or irrelevant. What is it that guides you? What is the difference between one fact and another, if it is not restricted to the completion of the immediate physical taking of gas out of the well and making it ready to be sold and to be transferred to the purchaser?

NARUC Reaction to Bills in Congress

At a special meeting of its executive committee held in St. Louis in early May, the National Association of Railroad and Utilities Commissioners (NARUC) adopted resolutions covering the association's position on various bills in Congress. Principal among these was the proposed legislation affecting both the Natural Gas Act and the Federal Power Act. The gist of the NARUC committee's actions is as follows:

The Natural Gas Act. NARUC favors certain amendments to the Rizley Bill (HR 2185) and companion measures pending in Congress which limit the Federal Power Commission's jurisdiction over end use, production and gathering of natural gas. These amendments would reserve to the state commissions such activities, to the extent that they are intrastate. They also would limit "transportation of natural gas in interstate commerce" under the Natural Gas Act to include only the continuous movement of natural gas in trunk transmission facilities, under pipe-line pressure, across state lines. NARUC also endorsed amendments sponsored by the Illinois Commerce Commission "designed to compel the Federal Power Commission to observe the purpose of Congress."

The Federal Power Act. The association favors the enactment of the Miller Bill (HR 2973) to amend Part I of the Federal Power Act, so as to restrict the jurisdiction of the Federal Power Commission over navigable streams. The association also favors enactment of another Miller Bill (HR 2972) to limit FPC's jurisdiction over intrastate power sales and Part II of the act—provided state commission control is suitably protected. The effect of these bills would be to get around U. S. Supreme Court decisions in such cases as the New River Case, the Hartford Electric Company Case, the Jersey Central Power & Light Company Case, and others.

Safe Harbor Water Power Case. The NARUC authorized its officers to intervene in pending Federal court litigation appealing the FPC's order in the Safe Harbor Water Power Corporation Case. The NARUC's position is that the FPC's jurisdiction over rates of electric utilities is confined to Part II of the act.

Exchange Calls And Gossip

Does the Farm Living Standard Demand a Telephone?

CAN every American farmer afford telephone service? If so, how soon can he get it? These and similar queries seeking a way to increase the comfort, convenience, and efficiency of the modern American farm are being asked this month in Washington at open sessions of the Agriculture Committee of the House of Representatives. Under the leadership of Representative Hope, Republican of Kansas, this committee is carrying on an ambitious survey of the American farm in an attempt to formulate some long-range farm policies that will help farmers, and stabilize the nation's economy, too. This survey now has reached the phase where it is analyzing living conditions on farms. Of course, rural electrification and rural telephone service are among the major topics figuring in these discussions.

To reach the heart of farm policy matters, the committee is exploring the history of existing policies, how they got that way. The group has checked parity and farm prices right back to World War I, and it has sought also to find out why Henry Wallace plowed under all those little pigs. When it looks into the history of rural telephony, it will see a sad story that appears headed for a happy ending. That story is well known to telephone men—how farm telephony rose and fell as farm income rose and fell through the last generation, and how, on a firmer fiscal footing, through the growth of existing telephone companies and the steadying of farm prices, rural telephony is on the way up again. That happy ending is suggested by the fact that the number of farm telephones has increased 27 per cent since 1940, after tumbling steadily downward for years.

ON the outcome of these Agriculture Committee hearings may depend the future disposal of the Poage Bill (HR 2585) to permit the Rural Electrification Administration to go into the telephone business. So far this session the measure has slumbered peacefully in a committee pigeonhole. In fact, Representative Poage has expressed satisfaction with the present speed of farm telephone development. He apparently feels that the threat to private companies inherent to his bill is just enough incentive for them to keep expanding in rural areas. But, in general, the present attitude of Congress probably would come closer to backing some sort of bill guaranteeing to private companies some Federal assistance in building rural telephone lines. Neither the Poage Bill nor any other similar piece of legislation is due for formal committee consideration, at least not before 1948. By that time, the Agriculture Committee's farm policies may have crystallized, and a program for 1948, probably useful in the next presidential campaign, may be ready. Representative Hope is prominently mentioned as the probable Secretary of Agriculture in the event of a Republican victory in '48.

Phone Taxes Out from Under

THE communications industry took its case against the excise tax to Congress last month. The House Ways and Means Committee started its own general survey, this time of over-all taxes and their effect on private enterprise. The

telephone and telegraph industries were honored by being the first trade groups to be heard, following Treasury and Internal Revenue officials. Representatives of the Bell system and the United States Independent Telephone Association pleaded for reduction of the wartime tax of 25 per cent on long-distance toll calls to 15 per cent, and for elimination of the war-born excise levy of 15 per cent on local exchange bills. These taxes will remain in effect as a result of congressional passage of the Grant Bill, continuing all wartime taxes for an indefinite period. Western Union also asked for reduction of the tax load on its wire services.

Specifically the companies objected to the inclusion of their essential services under the heading of "luxuries." They indicated that remission of these taxes would lessen the blow to consumers of rises in exchange rates now being authorized by many state commissions. They also suggested that the reductions might encourage customers to ask for additional improvements in service, such as telephone extensions and other innovations. The committee gave them a sympathetic hearing, but gave little indication of its intention of doing any more about it. However, some members of the committee have been zealously attacking the haphazard tax structure which blankets communications under the same listing as cosmetics, jewelry, and amusements. Even some types of fur coats escaped from this category when the Grant Bill was passed, while a bill exempting electric appliances has already been introduced. A reshuffling of tax titles is therefore likely. It would represent the first step toward removal of the excise tax from wire communications.

Labor Ills and Bills

THERE are few people today who would call the recent telephone strike a "luxury" strike, least of all the National Federation of Telephone Workers, now struggling to retain its identification as an independent union. Although its strike washed out a bloc of its membership, ruined its treasury, and damaged its morale, the union is bravely planning to convert itself this month into the Communications Workers of America, a new version of the old union. No accurate estimate of the numerical strength of NFTW is now available, though it is known to have been hit pretty hard by the withdrawal of renegade locals which were too hungry to hold the line after a month of striking. The question has naturally risen as to who will take the blame for the strike fiasco, and rumors in the daily press hint that President Joseph A. Beirne may be the candidate. Long Lines Union Chief John J. Moran is mentioned as a possible successor.

Meanwhile, Senate and House of Representatives in Washington threshed out the industry-wide bargaining issue in conference on the omnibus labor bill. Originally the Senate had not intended to write any such provision into its bill. Senator Ball himself had earlier gone on record as desiring to leave the bargaining question in the hands of the states. But evidently the telephone strike had something to do with changing the Senators' minds, for they included a ban on strikes called for the purpose of forcing industry-wide bargaining. A more stringent proposal of Senator Taft's, which would have definitely outlawed the industry-wide walkout, was rejected by a 44-to-43 vote.

The Senate also wrote in a section giving the National Labor Relations Board the authority to seek injunctions against strikes in industries that affect the nation's health and safety. This, of course, brings us right back to where we started, which is the question whether or not the telephone strike we just went through really does endanger public health and safety. The antipicketing provisions written into the House version of the bill might turn out to be in the nature of a "trade" item. In other words, in return for stiffening some mild Senate phrases, the House will abandon its support of the antipicketing section.

But a new court interpretation of mass picketing was handed down in a South Carolina Common Pleas Court during

the telephone strike. After repeated acts of violence had brought the strike pickets before him, Judge G. Duncan Bellinger, of Columbia, South Carolina, directed that strikers picketing exchanges in four major cities should be limited to eight pickets at any one time. The order further directed that the pickets "conduct themselves in an orderly manner and should not restrain, molest, coerce, intimidate by word or action any person attempting to enter or leave the premises of the company." It was not appealed by the union.

Incidentally the New Jersey Bell Telephone Company may be setting a post-strike pattern for other companies which have large numbers of manual phones. These phones were usable only for emergency service during the telephone strike, and New Jersey Bell will make no charge for its local service while the strike was on. Dial phone users get no adjustments unless they happen to live in an area where there are mostly manual phones. Then they will get special consideration. Credits for April service already paid for will be applied to this month's bill.

Western Union Looking Up

THE strike provided a field day for local messenger boys and dime-message services. It also enabled the Western Union Telegraph Company to handle an all-time record volume of traffic. The big upsurge in Western Union business began on April 7th, the day when the Bell system's operators, clerks, and maintenance men left their jobs. But even before that, Western Union reported net income for the first quarter of 1947 (the three months preceding the strike) was $1,236,342. This figure contrasts with a loss of $5,660,576 for the same period in 1946. (Thus net income really improved by $6,896,918.) Net profit for March this year was $813,205. According to Western Union's President Egan, the figures showed greater financial efficiency in operations, plus some new rate increases in various states. Egan added that a scheduled 8-year mechanization program would be completed in four years.

Meanwhile, the bill in the Senate Interstate Commerce Committee to require the government to pay full telegraph rates (instead of 80 per cent rate in effect since 1864) is hanging fire. Senator McFarland has urged the government departments which use telegraph service to hurry their estimates of increased costs. He believes that some of them are deliberately stalling their report because they fear the bill will change existing overseas cable rates. The Senator says this fear is unfounded. He insists that negotiated contracts with cable companies will not be altered by the bill.

The Comptroller's Corner

A CHANGE in the allocation of telephone costs among exchange calls, interstate toll calls, and intrastate tolls has been recommended by the joint telephone committee of the National Association of Railroad and Utilities Commissioners and the Federal Communications Commission. It will mean an increase in the exchange share of revenues, and a heavier tax load on the interstate share of the business. The committee decided that the "use" method of determining costs should be continued—that is, apportioning costs according to the actual use of one type of service as compared to another.

Here is an example of one change permitted under the new proposal. In 1946 all local and state taxes for Bell companies came out of exchange and intrastate revenues, none out of interstate income. Since such taxes generally allowed the companies the right to use roads and otherwise conduct business both within and outside the state, it was felt that the interstate part of the business should carry some of this tax load, if it can be legally done that way. The committee report did not attempt to say the final word on what would be a fair way to work the details of such allocation out, and further recommended that more investigating be done to make these allocations as equitable as possible.

Financial News and Comment

By OWEN ELY

Financial Position of the Electric Utilities

On the occasion of the annual Edison Electric Institute convention it may be of interest to review the history of electric operations and earnings and compare 1946 results with those of 1932—the year of the big depression, but before the New Deal came into power. In that year the electric utilities generated some 74,000,000,000 kilowatt hours and took in $1,713,000,000 in revenues, or about 2.3 cents per kilowatt hour. Of these revenues, they carried down to net income $506,000,000 or nearly 7 mills per kilowatt hour. Of this amount it is estimated that $135,000,000 was paid out in preferred dividends and $359,000,000 in common dividends.

Fourteen years later in 1946, total net output was close to 180,000,000,000 kilowatt hours or nearly 2½ times the earlier figure. Revenues were $3,100,000,000 or 82 per cent larger than in 1932. Revenues per kilowatt hour averaged about 1.7 cents, a decrease of 26 per cent from the 1932 figure despite the fact that wholesale commodity prices had nearly doubled. The amount carried down to net income was about $645,000,000, a little over one-third of a cent per kilowatt hour. While net income was larger than in 1932, this was largely because of repeal of the excess profits tax which increased 1946 net by $111,000,000 compared with 1945. Even allowing for this substantial improvement in earnings, the amount obtained by stockholders per unit of product was only about half as much as in 1932. And common stockholders received only $346,000,000 in dividends, or slightly less than the estimated figure for 1932. (Total dividend payments were $454,000,000 compared with $494,000,000 in 1932.)

It may be complained that in 1932 utility capitalization was still on an inflated basis, but the figures here used are for operating companies only and do not include the inflated holding company securities. Capital stock (preferred and common) was carried at about $6,942,000,000 in 1932 compared with $6,380,000,000 in 1944, and surplus was only nominally larger in 1944—$1,104,000,000 compared with $1,008,000,000 in 1932. Incidentally, long-term debt also declined, the 1944 figure being $6,397,000,000 compared with $6,678,000,000 in 1932.

What has happened in this 14-year period to explain the fact that, while the electric utilities did a business 2½ times as large as in 1932, common stockholders received smaller dividends (even with the blessing of a tax "windfall")? The answer lies in the familiar fact that during almost this entire period the utilities were subject to regulatory pressure of almost every conceivable nature from Washington agencies. Had it not been for the resistance shown by some of the state commissions to the "leadership" which Washington tried to supply them, the comparison would doubtless be worse.

Because of the difficulty of selling common stocks, virtually no equity financing was done by the electric utilities until 1945-46 when a small amount appeared. They were forced to "live on their fat," making additions and better-

ments out of net income and, in recent years, using their generating equipment at a ruinous rate, far above normal operating capacity. Obsolete stand-by equipment was forced into service and power pools (which in an earlier day might have been condemned as a monopolistic practice) greatly improved the round-the-clock output.

DESPITE mounting costs for labor and fuel (fuel in 1946 cost the utilities 3.3 times as much in the aggregate as in 1935) residential rates were forced continually lower, until they are now about 42 per cent below the 1932 level. Some of the rate cuts of recent years were forced on the utilities in connection with "plant write-offs." Not satisfied with eliminating "write-ups" of plant account over cost of acquisition, the Federal commissions and some of the state commissions have also in many cases ordered the utilities to make further reductions (either by an arbitrary charge to surplus or by annual amortization) with the ultimate object of cutting down plant account to "original cost when first devoted to public service." Such write-offs ignore the added value obtained through skillful combination of a number of small local plants; *i.e.*, legitimate system building, which is wholly different from the promotional creation of holding companies. They also ignore changes in the gold value of the dollar, and in commodity prices. Stockholders have thus been heavily penalized, as is indicated by present low book values of many high-grade operating company stocks.

As illustrating the effects of plant write-offs, net plant account today is probably not much (if any) larger than in 1932. At that time utility plant for the entire electric industry was reported at $14,400,000,000 and depreciation at $1,100,000,000, or a net figure of $13,300,000,000. In 1945 plant account of A and B utilities had increased only to $14,500,000,000, but depreciation and amortization reserves had increased to $3,100,000,000 so that the net figure was only $11,400,000,000 — considerably smaller than in 1932. This was despite an increase in generating capacity of over 25 per cent and a gain in output of 150 per cent. All the money "plowed back" out of earnings during the 14-year period had been proved insufficient to offset the write-offs ordered by the commissions. Unfortunately, no exact figures are available as to the amount of new construction but it may be estimated as somewhere in the neighborhood of $2,000,000,000-$3,000,000,000.

AS a result of their wartime efforts and the present high level of output utilities now have a lot of worn-out and obsolete equipment which is highly inefficient. Installation of new generators and transmission facilities would lead to marked economies were it not for the fact that construction costs are about twice as great as in the prewar period. Hence the utilities will have to spend twice as much as in prewar days and, even if they are able to reduce kilowatt-hour fuel costs sharply, this may be more than offset by heavier fixed charges and dividend requirements.

If rates are still further reduced the common stockholder may find himself more than ever "behind the eight ball." The electric utilities last year, and thus far in 1947, were able to absorb increased costs because of tax savings and increased output. But there is now serious question whether they can continue to absorb further cost increases without a decline in net income. We have already noticed a sharp decline in earnings of telephone and manufactured gas companies, and the belated fight that many of these companies are waging to obtain rate increases.

The electric utilities should now be entitled to relief from continued pressure for residential rate cuts. They will have to raise huge amounts of new capital in the next three or four years if they are to replace worn-out equipment and serve the public efficiently. To maintain a well-balanced capital structure they must sell considerable amounts of common stock. Some of the stronger companies such as Pacific Gas and Electric Company can do this by issuing rights, but other com-

panies must sell stock in the open market. This is particularly difficult under present market conditions and in three recent cases (Upper Peninsula Power, South Carolina Power Company, and California Oregon Power Company) it has proved impossible or difficult to obtain reasonable bids for proposed stock offerings. Obviously, therefore, the utilities and the regulatory authorities should move slowly in effecting further rate reductions, until the future trend of earnings on an over-all basis is more clearly established.

Analyses of Utility Securities By Wall Street Firms

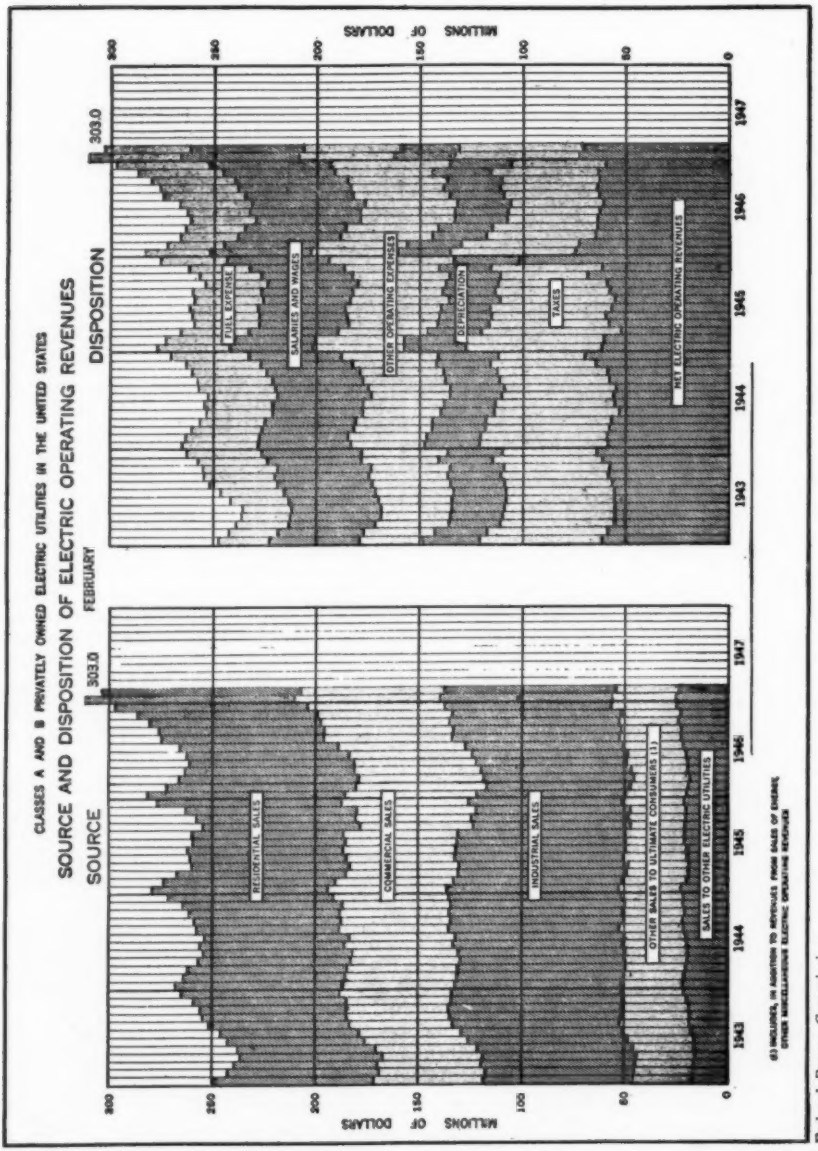
A 16-PAGE analysis of Minneapolis Gas Company new common stock has been prepared by Model, Roland & Stone. This company is expected to be created by the merger of Minneapolis Gas Light Company and American Gas & Power Company, its holding company. The company is said to be "the fastest growing operating gas utility in the United States, its rates are among the lowest for any comparable company in the country, and its unusually large proportion of residential business provides an element of stability which is a decided asset from both an operating and an investment point of view."

The study also points out that the company enjoys a remarkably favorable franchise position for operations within the city limits of Minneapolis. This franchise is said to provide that rates be adjusted upward or downward in accordance with the fluctuations of net operating income in relation to the "allowable" level, which is estimated at about $1 per share on the new common stock after allowance for prior charges. The company also has important suburban business which is growing rapidly. Earnings are estimated to increase from 96 cents a share to $1.61 in 1953.

HAROLD H. YOUNG of Eastman, Dillon & Co. has issued a 5-page memorandum on Idaho Power Company. He points out that greater attention is now being focused on the stocks of hydroelectric companies as being free from fuel problems and thus not affected by the current high prices for coal and oil. The company's revenues are 100 per cent electric and its territory follows the Snake river valley along which there is a 2,500-foot fall, which has permitted building of an interconnected series of hydrogenerating stations. The cost of power is thus extraordinarily low, amounting to only about a half a mill, permitting a domestic service charge per kilowatt hour of less than 2 cents. Usage is naturally high, amounting to nearly 3,000 kilowatt hours or about 2¼ times the national average. A considerable amount of power is used for irrigating purposes since the territory is largely agricultural.

The company has had a good growth record with a gradual increasing in earnings for stockholders, Mr. Young states. While 1946 share earnings were $2.74 compared with $2.92, the latter figure includes some 50 cents a share in nonrecurring tax credits. Earnings are continuing to improve, $2.84 being reported for the twelve months ending March 31, 1947. If stated before the item for amortization of plant acquisition adjustment, the figure would be increased to $3.16 a share. The current dividend rate is $1.80 compared with the $1.60 rate paid for several years up to the final quarter of 1946. The stock, which is listed on the Exchange, has been in the hands of the public since it was sold by the Electric Power & Light Corporation in 1943.

FRED W. FAIRMAN & Co. has prepared a 6-page memorandum on Central & South West Corporation. The company was recently created as a result of a recapitalization and merger of Central & South West Utilities Company and American Public Service Company, subholding companies in the Middle West system. Middle West received about 53 per cent of the new common stock and will distribute this to its own stockholders (share for share) on June 14th.



Federal Power Commission

What Others Think

Postwar Progress in Electrifying America

WHEN the firing ceased following the victory in August, 1945, the electric light and power industry in the United States was faced with a number of serious question marks, as industrial demobilization began. The main problems seemed to be resolved into four major questions:

1. Would high taxes continue?
2. Would pressure for lower rates continue?
3. Would there be higher fixed charges?
4. Would there be a drop in industrial load?

Industry leaders generally expected that the answers to all these questions would be "Yes." But they were not sure, with the possible exception of continued high tax levels. Even as to that the remission of the excess profit tax—although generally discounted in advance as the passing of a war-born expediency—gave some relief in the form of better net earnings in 1946. But even such savings have been rapidly absorbed in higher operating costs as wages and materials continue up in a generally inflationary atmosphere.

The inflationary atmosphere itself doubtless had some effect on easing the pressure for rate reductions. The trend of electric utility rates continues generally downwards, as it has for the past half century. But the number and scope of individual company reductions have been relatively fewer. This, coupled with the appearance of rate increase petitions in other utility lines, such as gas and telephone service, leads to the general conclusion that electric utility rates have struck bottom, or nearly so—for a while at least.

But it was the industrial load performance which provided the greatest prize in the postwar period to date. American industry amazed experts by the rapidity of its reconversion. The electric power load continues at its high level. The anticipated drop did not occur to any noticeable extent.

MUCH of the credit for this can go to the wise planning of the industry, including the electrical manufacturing industry. Typical of such farsighted thinking was the long-range program announced by the General Electric Company in July, 1945, before the Japanese war had even ended. Charles E. Wilson, president of General Electric, in launching this program, labeled "More Power to America," said at that time:

> Frankly we began this program through self-interest, in order to widen the market for the sale of commercial and industrial power, but that does not detract from its soundness. While the potential market for postwar sales of electrical equipment for the home have always been fairly obvious, both government agencies and the power industry are sharply aware of the need to find new uses of electric power in commerce and industry to take up the slack that will result from the eventual cessation of full war production. It is one of the happy characteristics of the electric power business that increasing electrification means increased efficiency and productivity, expanding markets for all kinds of capital goods and machinery, and a high rate of employment.
>
> Electric power has been applied to American industry along the lines of least resistance. The first and most logical customers to be served in modernizing and electrifying the industrial field were naturally the big industries, such as steel, automobiles, chemicals, mining, and transportation. Their needs could not wait, and it should be noted that as they were electrified their productivity increased, their business multiplied, and the income of workers rose to new high levels. These units still represent continuing markets. But what we are faced with postwar is the necessity of finding new markets for electric power. As a result of two years of dig-

ging for facts and examining smaller businesses and their problems, we are convinced that there are tremendous fields for modernization that have hardly been touched. One of the ways to approach the laundry or food processing industries, for example, which consist of thousands of scattered small units, is through machinery manufacturers and trade associations, and that is where our program began. The electric power business itself is made up of thousands of local electric companies, and what we have done in building this program is to collect the data, prepare the information, and formulate the engineering and sales tools that can be used by the local electric company to tackle this job in every community.

THE program mentioned by Mr. Wilson was based on planning in terms of five, ten, and even twenty years—also, the realization that the electric industry has an obligation to contribute to the building of a peacetime America. Mr. Wilson said on this point:

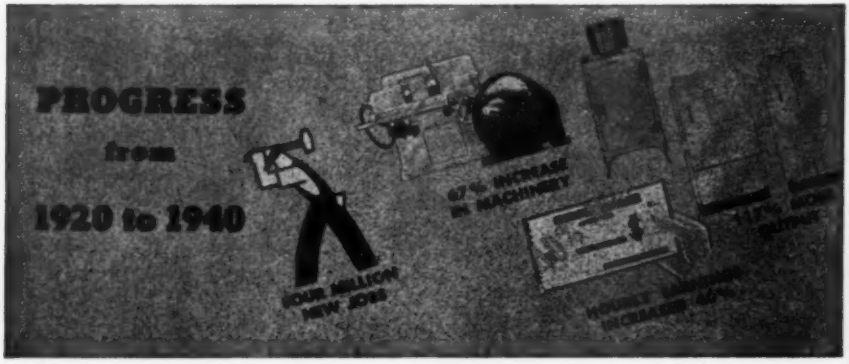
> . . . The secret lies in our ability to produce more goods for more people at less cost. Only by remaining the greatest nation in the world from a productive standpoint can we hope to remain the strongest nation in the world from a military standpoint. From 1920 to 1940 we increased the output per man-hour in manufacturing by 117 per cent. It enabled us in 1943 to turn out three and one-half times the volume that we did at the peak of the last war. At 1919 levels of productive efficiency, 78,000,000,000 man-hours of labor, or more than twice the 32,000,000,000 man-hours actually used this time, would have been required to turn out 1943 munitions. It would have been hopeless, because 20,000,000 additional wage earners would have been needed to do the job. It is just this kind of dynamic progress that we in the electrical industry want so earnestly to apply to our postwar problems, to small business as well as large.

And so, although the electric utility industry is not today hungry for load, it is still planning future promotion activity on a broad front, including a consideration of the social significance and economic and educational factors involved. That there is much to be done in the utilization of electric energy in the future can be seen in considering these facts:

1. *More complete modernization and electrification of industry.* Electricity supplies 86 per cent of industrial horsepower, *but* electricity is applied to only 50 per cent of profitable uses. In other words, American industry is still less than 50 per cent modernized in terms of using electricity for every operation it can do most efficiently and economically.

2. *Increased production through modernization and electrification.* Production increases already achieved by putting electric horsepower on the job indicate what can be expected from greater coöperation. Thus a 65 per cent increase in horsepower in redesigning a tinplate mill resulted in a production increase of 100 per cent. A redesigned printing press speeded up production 66⅔ per cent. The installation of resistance welding machines with electronic control stepped up welding production 500 per cent.

3. *More employment and income through electrification.* Complete modernization and electrification would in-



evitably accomplish greater consumption and more employment, as shown by the results during the postwar period following World War I between 1920 and 1940. During that period installation of production machinery and equipment in American plants and factories increased 67 per cent. But compare this with the increase per man-hour of 117 per cent and the increase in total employment of 4,000,000 people with an average increase in real earnings of 40 per cent.

4. *Lower prices through electrification.* Almost every major American industry can show spectacular examples of lower cost, as well as increased production and better products. During the period between 1920 and 1940 in the chemical industry, for example, the price of rayon dropped from $4.61 a pound to 53 cents a pound, while the volume of sales increased from 10,000,000 to 471,000,000 pounds. The price of electric refrigerators dropped 50 per cent in the ten years between 1929 and 1939, while production doubled. The 1920 automobile which sold for $2,255 appeared almost primitive in comparison with the 1940 model selling for $955, while the unit volume of annual sales doubled. The ordinary 60-watt lamp bulb which cost 45 cents in 1920 was selling for 10 cents in 1940 and giving twice as much light per watt power.

AMERICA'S future progress lies in greater utilization of electrically operated equipment in all industrial processes. In the field of motorization alone, there are still hundreds of manual operations which can be done better with electrified machinery. There are others already motorized which can be done more efficiently with modern machinery and higher electrical horsepower.

Electric heating has tremendous potentialities. So has electric welding, modern industrial lighting, air conditioning, modern materials handling, infrared drying and baking, and electric furnace heating. High-speed cutting techniques open a rich, new field for coöperation between machinery and electrical manufacturers.

The full potentialities of industrial electronics will not be probed for a decade. Industry has just begun to realize the value of the X-ray. So, too, with the countless new machines developed through the ingenuity of America's machinery manufacturers.

In 1929 American industry was using 2.9 kilowatt hours per man-hour. By 1940 the ratio had increased to 5 kilowatt hours. This ratio was substantially maintained throughout the war and the early postwar period. Can it be increased?

One electric manufacturer suggests an objective of one kilowatt hour per man-hour by 1950. This means increasing industrial use of electrical energy from the average of 5 kilowatt hours per man-hour in 1946 to 6 kilowatt hours per man-hour in 1950. To accomplish this would require an average increase of one-quarter kilowatt hour per man-hour each year.

Comparing this with the prewar average increase of one-fifth of a kilowatt hour each year, it appears that the industry faces the task of doing a 25 per cent better job than has ever been done before in the field of industrial electrification.

—F. X. W.

EEI Issues Dorau-Foster Report on Federal Electrical Energy Tax

As an initial report on the impact of Federal taxes on the electric industry, the Edison Electric Institute has recently published a brochure on the Federal electrical energy tax. In a foreword, Institute President Grover C. Neff states:

> The electric utility industry foresaw about a year ago that, in connection with the probable revision of the Federal tax struc-

ture, particularly the expected congressional hearings, the industry should be prepared with a study of the characteristics and effects of Federal taxes on electric utilities.

To meet this situation Professor Herbert B. Dorau and Dr. J. Rhoads Foster were employed to make such a study of the character, extent, and effects of Federal taxes on electric utilities.

The committee report first cites some legislative history, pointing out that the law was "adopted in face of objections due to dire need of revenues," and that the exemption of energy sold or manufactured by the so-called publicly owned electric utility plants also clearly marks the tax as discriminatory in the power field.

As a revenue producer it is shown that the tax is relatively unimportant, the Federal government deriving only $27,000,000 of net effective revenue from this source.

Among the discriminatory and burdensome factors incident to this tax, the committee states that a "unilateral tax stifles competition"; that the "burden is not easily shifted to the consumer"; that there is "confusion in classification"; that the task of administration is hopeless; and "administrative costs not proportionate to yield."

AFTER commenting in some detail upon the unusual and intimate factual inquiry into the business of each utility customer required by this tax, as well as the excessive cost of additional record keeping and specially trained personnel, the committee thus set forth its conclusions:

The electrical energy tax is (1) productive of relatively little revenue; (2) highly difficult and impractical of determination; (3) inordinately costly for the taxpayer who must comply with its provisions, and for the government; (4) discriminatory (a) between classes of public utility service subject to excise taxes, (b) between privately owned and publicly owned electric utility plants, and (c) between privately owned electric plant for private service and privately owned electric plant for public service; and (5) responsible for a narrowing of the profit margin in the highly competitive power field.

It is in very truth a nuisance tax. It is inequitable. It has no place in a peacetime economy when revenue needs are lessening, and it should be repealed.

The 78-page report of the study made by Dr. Herbert B. Dorau, professor of economics, New York University School of Commerce, Accounts, and Finance, and Dr. J. Rhoads Foster, lecturer in public utilities, New York University Graduate School of Business Administration, makes up the major part of this brochure. Their report is titled "The Federal Electrical Energy Tax—an Inequitable and Uneconomic Burden on Investors or Consumers."

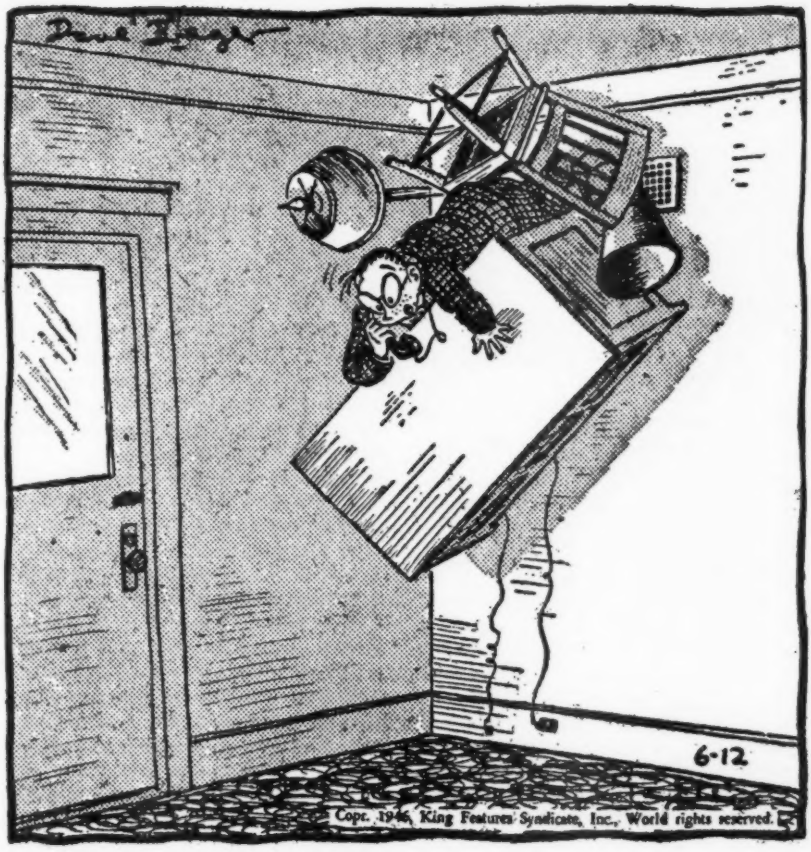
In text, tables, and graphs there is presented a detailed exposition of the findings resulting from this study. An appendix includes several pages of background statistical information, together with excerpts from congressional debates and committee reports, and references to court and commission policies and practices having a bearing upon this tax matter.

AN introductory summary of this report states that it is a factual analysis of the distribution of the Federal electrical energy tax among the tax-paying class A and B electric utilities for the year 1944. It is further noted:

There were 348 such class A and B privately owned electric utilities but for seven, and in part for three others, the necessary data were not available. There are in addition more than 800 very small privately owned tax-paying utilities which were not included in this study because of the unavailability of necessary data. These 800 very small enterprises probably account for less than two per cent of the revenue of all privately owned electric utilities and somewhat more than two per cent of the energy tax.

For purposes of this study of the distribution of the burden of the electrical energy tax, the amount of the tax for each class A and B electric utility in the United States was obtained from Form 420 in the annual report of electrical utilities to the Federal Power Commission. Revenue, income, and other operating data for each utility were obtained from *Statistics of Electric Utilities, 1944*, published by the Federal Power Commission.

With respect to the "method" employed it is stated:



Courtesy, The (Washington, D. C.) *Evening Star*

"AIR-CONDITIONING COMPANY? I THINK THE AIR INTAKE NEEDS A SLIGHT ADJUSTMENT!"

A limited number of simple statistical relationships were selected to measure and express the distribution of the burden of the electrical energy tax among the 338-341 privately owned class A and B electric utilities.

It has first been assumed that the congressional intent to tax the utility enterprise actually resulted in imposing the burden of the tax on the utility investors. For this analysis the selected measures of the tax burden are (1) the ratio of energy taxes paid to operating income and (2) the ratio of energy taxes to net income.

It is next assumed that the burden of the energy tax has in fact under regulation been substantially, even if imperfectly and somewhat uncertainly, shifted to the consumers. The measure of the burden on consumers is (1) the ratio of the energy tax paid to the revenue of the enterprise from sales to ultimate consumers and (2) the ratio of the energy tax to total electric operating revenue.

This dual approach to the measurement of the energy tax burden is not intended to deny the probability that, as a tax on revenue, the energy tax may in some instances in fact also be a burden on the enterprise in so far as it restricts the most economical development of the market in these industries of sharply decreasing unit cost and elastic demands.

THE summary closes with a brief, but specific comment by the authors upon their findings. They state:

> The statistical relations derived lead unavoidably to the conclusion that the Federal electrical energy tax is unequally distributed and is an inequitable and uneconomic burden on investors or consumers, and more particularly that,
>
> (1) it is unequally and unfairly distributed among utilities,
>
> (2) it bears more heavily on utilities with small net incomes,
>
> (3) it bears more heavily on smaller electric utilities,
>
> (4) it bears heavily on utilities with smaller operating incomes,
>
> (5) as a burden on consumers it is unequally distributed among electric utilities,
>
> (6) as a burden on consumers it is heavier on consumers served by smaller utilities,
>
> (7) if the impact of other Federal taxes is equitable, the impact of the Federal electrical energy tax is inequitable, and that
>
> (8) it is grossly discriminatory among consumers of electrical energy by completely exempting the consumers served by 2,130 municipal, county, state, and federally owned electric utilities and 725 coöperatively owned electric utilities from the burden of the tax,
>
> (9) and singles out for discriminatory taxation the utilization of energy in one form and exempts energy competitively available in other forms, resulting in a distortion of the national energy resource consumption pattern.

As one goes through the pages of this report, it becomes evident that the study upon which it is based was comprehensive and searching. It contains a fund of revealing and pertinent information bearing upon this tax question.

The Edison Electric Institute has made a distinct contribution to the electric utility industry in submitting this report, based upon the intensive studies of Messrs. Dorau and Foster. The findings cast so much light upon the numerous inequities of the Federal electrical energy tax that the publication of additional reports, covering other phases of the overall study, will undoubtedly be awaited with much interest by all electric utility men who have especially to do with tax matters.

—R. S. C.

Pioneer Book on Heat Pumps

ADVANCE information has been received of the forthcoming publication, sometime in June, of a treatise in book form on the heat pump.

This full-length study of the subject, entitled *Heat Pumps*, has been written by Philip Sporn, executive vice president and chief engineer, E. R. Ambrose, air-conditioning engineer, both with the American Gas & Electric Service Corporation; and Theodore Baumeister, consulting engineer with the same corporation, and professor of mechanical engineering at Columbia University.

The publishers state that this new book is believed to be the first full-length volume devoted exclusively to consideration of heat pump design and installation fundamentals, and to applications of this particular device in building heating and cooling and in industry as well.

The authors have been intimately associated with the development of the heat pump, and their combined experience with design, operation, and maintenance of such installations has been extensive. It is understood that they believe that the heat pump, with its potential for vastly increasing the energy derived from fuel, will become increasingly important in this country as the need for optimum utilization, as well as conservation, of our natural fuel resources becomes recognized.

APPLICATIONS of the heat pump to building heating and cooling are not limited to office and industrial structures, but open up a vast field for home installation. Development in this latter direction will very likely be of special

interest not only to electric utility companies, but to architects, heating and ventilating contractors, and home owners themselves. In industry, the heat pump has already been successfully used in such processes as the evaporation and purification of liquids, the drying of solids, and the simultaneous chilling and heating of process fuels.

In the forthcoming book the subject is presented by successive consideration of the thermodynamic principles involved; equipment design, specification, and selection; and maintenance, operating, economic, and installation problems. The treatment is reasonably technical, but there is no inclusion of theory beyond that essential for understanding of good installation and assembly.

HEAT PUMPS. John Wiley & Sons, Inc. 440 Fourth avenue, New York 16, New York. Price about $3.75.

Notes on Recent Publications

Best Governed Citizen Still Chasing Alternative. Provided the economic system of the U. S. is the right kind, says author Chase, our resources are plentiful for economic security. As to the "right" system, he cites four possible ones: (1) Our present system, which is mixed, various groups seeking position of control, patchwork efforts to fix things up when trouble arises—all this is frightfully "obsolete." (2) An economy to include partial planning, like Sweden's Middle Way. (3) Unconfined competition. (4) A totalitarian state with the economy absolutely controlled; revolting idea to most Americans. WHICH WAY FOR THE AMERICAN WAY? By Stuart Chase. *Magazine Digest.* May, 1947.

Heading Off a New Depression. Economists appraise the outlook. Slichter expects mild recession, in view of overpriced farm products and high demand for durable goods. Hansen sees no adequate program to forestall preventable troubles, though perhaps problems may be better handled than in '29 and '37. Von Mises considers chief danger lies in credit inflation, but that people learned a lesson in New Deal days and will avoid any return to discredited financial policies. Temple calls for restraint to avoid depression. Black anticipates critical period in coming year, when governmental measures will be needed, and that wages should get bigger share of profits, also that prices should be cut. CAN AN ECONOMIC DEPRESSION BE AVOIDED? By Sumner H. Slichter, Alvin H. Hansen, Ludwig von Mises, Alan H. Temple, and John D. Black. *The New York Times Magazine.* April 13, 1947.

British Conservative Façade. English conservatism is less hesitant than U. S. conservatism in the face of reform. The working classes in England, with a maturity both in understanding and use of political power, have little of class hatred, and do not seek or want revolutionary action. The U. S. press not infrequently either ignores these factors or gives a wrong impression of the actualities of the Labor government program. Instead of being state paternalism, the mode of life adopted in England is really "a middle course between anarchy and restraint." The author asserts that it might be helpful for Americans to look at themselves as the British see them—they consider that in the U. S. there is "sheer failure of intellectual analysis." MIDDLE ENGLAND. By E. L. Woodward. *Foreign Affairs.* April, 1947.

Riding on Natural Gas? A plant is being built in Texas to make oxygen, which will be combined with natural gas to produce gasoline, also Diesel oil and chemicals. The process, adopted from the Fischer-Tropsch system, is expected to lessen the price of gasoline, and increase the potential sources twofold. The cost of oxygen will be sharply cut from $70 to $3 a ton. Standard Oil Company (New Jersey) and Standard Oil Company (Indiana) intend to construct plants to use this method. OXYGEN MAGIC: GAS INTO GASOLINE. By Sidney B. Self. *Science Digest.* May, 1947.

Soldiers of Public Service. Out in western Colorado in the shadows of the Rockies, patrolling electric power transmission lines in winter is a real job. High altitude, heavy snows, gale winds, and way-below-zero temperature, all combine to make plenty of work when storm damage has to be repaired and service restored. The day-to-day experiences of Harry Wright, foreman for a private power company, are told, touching the "high spots" of his travels over an isolated area of 300 square miles in rough mountain country. Color pictures add to the interest. MOUNTAIN LINEMAN. By Richard Thruelsen. *The Saturday Evening Post.* April 19, 1947.

The March of Events

In General

Seeks Authority to Issue Securities

THE California Electric Power Company, Riverside, California, has applied to the Federal Power Commission for authority to issue 80,000 shares of cumulative preferred stock, par value $50 per share. The stock is expected to add to the company's general funds approximately $4,000,000, to be used for the development and expansion of its properties and those of affiliates.

The proposed securities issue has been registered with the Securities and Exchange Commission and, as soon as the registration becomes effective, advertisement would be made for written sealed bids. The bids must specify the dividend rate in terms of dollars and the price to be paid to the company, which must not be less than the par value per share. Redemption and liquidation prices will be established after acceptance of the bid. The bidder will at that time disclose the public offering price and the underwriting commission if public offering is to be made.

State Commissioners Organize

ORGANIZATION of the Midwest Conference of State Utilities Commissions was effected last month in a meeting in the state office building at St. Paul.

Representatives of eight Middle West states, meeting in the hearing room of the Minnesota Railroad and Warehouse Commission, set up the organization and elected Colonel Frank W. Matson, member of the Minnesota commission, as its first president.

Fred Lindekugel, South Dakota commissioner, was named vice president. Matson appointed Oliver A. Ossanna, secretary of the Minnesota commission, secretary and treasurer.

States represented at the meeting were Iowa, Kansas, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin, and Minnesota.

Subjects under discussion included uniform reciprocity laws between states, distribution of grain cars, proposed telephone increases for interstate service, abandonment of local telegraph facilities, proposed increases in short-haul rates, and other problems confronting the state commissions.

AGA Executive Group Appointed

AN executive committee of seven members with full power to act for the executive board of the American Gas Association between regular meetings was appointed at a recent meeting of the board held in Milwaukee, Wisconsin. This action followed adoption of an amendment to the AGA constitution and bylaws of the association's membership.

The executive group, which is expected to expedite the conduct of association affairs, consists of the president, R. H. Hargrove, vice president, United Gas Pipe Line Company, Shreveport; the vice presidents, Hudson W. Reed, president, Philadelphia Gas Works Company, Philadelphia; and Robert W. Hendee, president, Colorado Interstate Gas Company, Colorado Springs; the immediate past president, Everett J. Boothby, vice president and general manager, Washington Gas Light Company, Washington, D. C.; Lyle C. Harvey, president, Bryant Heater Company, Cleveland, represent-

ing the manufacturers; George F. Mitchell, president, Peoples Gas Light & Coke Company, Chicago; and E. H. Eacker, vice president, Boston Consolidated Gas Company.

FPC Sets Hearing

THE Federal Power Commission has set hearing for June 16th in Washington, D. C., on an application filed by Northern Natural Gas Company for authorization to increase its natural gas transmission system capacity to 580,000,000 cubic feet per day.

Facilities proposed include construction of a new compressor station with installed capacity of 10,000 horsepower near Garden City, Kansas, and 320 miles of 26-inch pipe line extending from the new compressor station to Palmyra, Nebraska; 245 miles of 24-inch line to complete the existing partial line looping from Palmyra to Farmington, Minnesota; 17.3 miles of 20-inch line from Palmyra to a point in Saunders county, Nebraska; the installation of an aggregate of 8,200-horsepower units in existing compressor stations along the line; a dehydration plant and appurtenant equipment. Cost has been estimated at $24,500,000.

Arkansas

Plans Huge Expansion

APPLICATION of the Arkansas Power & Light Company to issue $11,000,000 in first mortgage bonds—first step in an expansion program on which the corporation expects to spend $23,142,000 in the next two years—was taken under advisement by the state public service commission last month.

A detailed analysis of the proposed construction, submitted as an exhibit to the application, disclosed that $12,238,000 would be spent in 1947 and $10,804,000 in 1948. The projects would expand the company's generating and distributing systems and produce a reserve power capacity in anticipation of new demands of industries moving into Arkansas. Less than $275,000 is projected for extensions to gas properties.

C. S. Lynch, executive vice president of AP&L, told the commission that, although industrial demand for power fell from its wartime peak after the cessation of hostilities, postwar industrial requirements are pushing the demand back toward the peak at a much faster rate than anticipated.

Connecticut

Governor Signs Antibias Bill

WITH the Republican majority sharply divided, the state house of representatives last month approved, 121 to 105, the state's first fair employment practices bill. Already passed by the senate, Governor James L. McConaughy on May 14th affixed his signature to the bill making it state law.

The measure bars discrimination against any individual because of race, religion, or color. The state interracial commission, created several years ago, is authorized to issue cease-and-desist orders against any employer, employment agency, or labor union guilty of discrimination.

The house action followed several hours of bitter debate in which some manufacturers and representatives of employer organizations brought pressure to defeat the bill. The Democratic minority sided with the measure's sponsors in the roll call vote.

A last-minute effort to make the measure apply only to concerns with ten or more employees was defeated 102 to 88. Employers with five or more workers are liable in the unamended version.

Confirmation Given after Fight

A LITCHFIELD county revolt in the Republican ranks, encouraged by Democratic legislators, failed to block confirmation in the state house recently of the nomination of Harry B. Strong, of Salisbury, the governor's executive secretary, to the state public utilities commission for a 4-year term.

Mr. Strong's qualifications for the $9,000-a-year post were bandied about for almost an hour as Representatives Chauncey B. Hutchings, Republican of Harwinton, and Phillip E. Curtiss, Republican of Norfolk, led the attack on the confirmation.

Also confirmed for a 6-year term on the utilities commission was the appointment of Dairy and Food Commissioner Carl M. Sharpe of Pomfret. There was no debate on Mr. Sharpe's appointment.

Illinois

Illinois Labor Wins

LABOR won a victory early last month in the first legislative test this session on measures designed to curb the wave of postwar strikes. By a vote of 27 to 2 the house committee on industry and labor relations defeated a measure sponsored by Representative Paul Randolph, Republican of Chicago, to delay strikes and lockouts in public utility industries until the state commerce commission would have an opportunity to attempt a settlement.

Randolph, in commenting on the committee's action, said the members of the legislature apparently are "still unaware of the public's attitude toward these crippling utility strikes, and do not yet have enough interest in protecting the public from them."

Indiana

No Natural Gas Bids Received

INDIANAPOLIS is not going to have natural gas for a while. This became clear recently when the deadline set for bids passed without a single bid being received.

A Citizens Gas & Coke Utility spokesman said "we presume none of the gas transmission companies was in any position to make any commitments on supplying us. We didn't even get a counter-proposition."

Michigan

Antisabotage Law Invoked

MICHIGAN'S new public utility strike sabotage law, which Governor Sigler signed recently, was invoked for the first time last month with the issuance of Allegan county warrants against six men accused of severing a telephone cable at Moline, Michigan, 15 miles south of Grand Rapids.

The law provides a maximum penalty of four years' imprisonment and a $2,000 fine for malicious interference with public utility operations.

Prosecutor Chester Ray of Allegan

county, who authorized the warrants, said the men, all residents of Grand Rapids, were charged both with cable slashing and with conspiracy.

Missouri

Utility Labor Law Passed

THE King-Thompson bill, prohibiting strikes against public utilities and authorizing seizure of utilities by the governor in case of actual or threatened strikes, was passed in the senate early last month.

Passed by the senate in the exact form in which it was approved by the house, the bill awaited only the signature of Governor Donnelly, which was assured, as it was the direct result of recommendations by the governor to the state legislature. It will become effective ninety days after the beginning of the legislature's summer recess, which was scheduled for about June 1st.

The opposition of labor, which had been particularly active, was directed principally against the severe penalty section and against the provision authorizing seizure. The act takes seniority rights away from striking utility employees, imposes heavy fines on unions and their officers engaging in strikes, and heavy fines on utilities for lockouts.

The new law specifically covers gas, electric, steam, water, sewer, heat, telephone, telegraph, and all transportation services except steam railroads.

Ohio

Rate Hearing Opened

THE state utilities commission started hearings recently to determine the rates Cincinnati Gas & Electric Company will charge the city of Cincinnati.

The company originally had asked for increases to give it $1,241,000 more revenue a year from gas sales and $945,000 for electric service. The proposed gas rate increase, the company said, would give it a return of only 6 per cent on its investment in the original cost of its gas properties.

The city objected and the company offered a second plan. This left the gas rates intact but reduced the electric rate increase to $395,000 annually. The city rejected this proposal, too, and the issue is now before the commission. The hearings were expected to last ten days.

Utility to Recover Fund

SETTLEMENT last month of the Cleveland Electric Illuminating Company's rate litigation with the city of Cleveland will release to the company about $4,000,000 in collections. These had been impounded on order of the state public utilities commission pending disposition of the dispute.

An ordinance covering the agreement was scheduled to become effective in forty days. It provides for continuation for four years of consumer electric rates at levels charged under the city's July, 1940, ordinance.

The rate level, under litigation for about two years, was recently approved by the state utilities commission.

The impounded funds, representing the difference between the approved rates and a lower scale proposed by the city, amounted to $3,057,600 at the end of 1946, plus $1,246,849 held in reserve and subject to Federal income taxes. The exact amount to be released would not be known, the company said, because of accruals between January 1st and the date the ordinance becomes effective.

An exception to the rate continuation agreement is specified for one month—in July this year—when electric rates will

be reduced to residential and general commercial customers in an amount aggregating $1,700,000. The ordinance also provides for its cancellation at the end of two years on due notice from either the city or company.

Eighty other municipalities served by the company under uniform rates laid down for the Cleveland area, which also will participate in the July reduction, are expected to adopt ordinances paralleling that of the city of Cleveland, the company said.

The over-all agreement with the city also provides an adjustment in steam rates to July 6, 1951, which is expected to add about $625,000 annually to the company's revenues.

Pennsylvania

Utility Seizure Plan Endorsed

SEIZURE of strike-bound public utilities in Pennsylvania was written into a bill reported favorably to the state house floor on May 13th. The bill also would authorize a $10,000 daily fine for unjustified strikes or lockouts affecting public safety and welfare in the state.

The proposal was one of several labor measures approved by the house labor relations committee.

The major labor bills, with exception of one requiring union financial statements, represented the program agreed upon by Governor James H. Duff and Republican leaders.

Under the bill outlawing strikes by public utility workers, particularly in gas, electric, and water plants, a 3-member agency representing the union, employer, and public would negotiate stalled disputes. Appeals from agency decisions could be made to the state superior court, whose rulings would be final.

If either the union or the employer defied the court's decision, the government could seize the struck plant and operate it under state supervision.

Utah

Rebate Fund Closed

THE largest rate case in Utah's history was closed recently when the last funds in a joint Utah Power & Light Company-state public service commission bank account were turned over to the state treasury.

From an impounded fund of $1,800,000 collected by the company over rates set by a commission order, less than one-half of one per cent—$8,545.20—in unclaimed refunds to company customers was paid to the state treasurer. The check was signed by Donald Hacking, commission chairman, and R. H. Jones, company treasurer.

The commission order reducing rates of the power company was made in 1944, but the actual rate reductions were not put into effect until the order was sustained by the Utah Supreme Court in January, 1945.

Virginia

Expansion Authorized

THE state corporation commission last month authorized the Southside Electric Coöperative, with headquarters at Crewe, to undertake one of the largest expansion programs yet proposed by an REA coöperative in the state.

The coöperative was permitted by the commission to borrow an additional $1,203,000 from the United States govern-

ment and to issue up to 5,000 additional memberships.

Some $840,000 in proceeds of the loan will be used for construction of 668 miles of additional distribution lines to serve 2,185 consumers; $243,000 for rebuilding the existing plant to increase capacity; and $120,000 for construction of 70 miles of short extensions to serve 500 consumers along existing lines.

The Southside Coöperative operates in 25 southern Virginia counties.

The commission also gave permission to Prince George Electric Coöperative of Waverly to borrow an additional $72,000 from the REA. Proceeds of the loan will go for construction of 36 miles of distribution lines to serve 235 new consumers.

Wins Contract

THE city of Portsmouth on May 15th entered into a 10-year contract with the Virginia Electric & Power Company to supply the municipality's electric needs.

The city council previously had indicated it would not enter into more than a 3-year contract because of anticipated Federal power from the Roanoke river hydroelectric project by 1950.

Portsmouth voters last year voted against establishing a municipal power plant.

Utility Tax Hearing Set

THE general assembly's public service tax study committee recently announced plans to conduct public hearings on Virginia's system of taxing public utilities on June 6th.

All interested persons were invited to present their views at the session, which will be held in the senate chamber at the state capitol building, Dr. Raymond B. Pinchbeck, dean of Richmond College and chairman of the committee, said.

Washington

Lighting Program Voted

APPROVAL of a $7,000,000 city lighting refunding bond issue and of a $4,466,000 expansion program for the utility was voted last month by the Seattle city council's utilities committee.

Lighting Superintendent E. R. Hoffman had recommended both proposals in communications addressed to the council.

The proposed refunding issue will, if satisfactory bids are obtained from investment syndicates, be used to redeem outstanding bonds which are callable next January.

The major portion of the $4,466,000 will be used to provide improved transmission and substation equipment to serve the north end.

Wisconsin

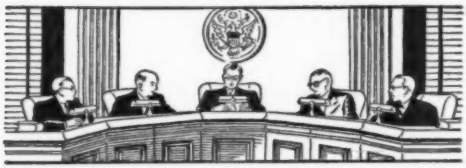
Bill Repeals Veto Power

THE state legislature recently gave final approval and sent to the governor for signature a bill repealing the veto power of municipalities over natural gas pipe lines.

Municipalities in the state heretofore have had the power to block pipe lines by refusing to allow them to enter their areas. The new measure would give the state public service commission full power over extension of the gas pipe lines.

Marking the second big victory of the 1947 Wisconsin legislative session for natural gas proponents, passage of the bill wiped out what natural gas supporters said was "one of the two biggest obstacles to natural gas expansion" in the state.

Several months ago the state legislature eliminated the other obstacle when it repealed a tax of 7 cents per thousand cubic feet of natural gas.



The Latest Utility Rulings

Correcting Previous Erroneous Report—AT&T Stock Sale Plan Approved

PETITIONS of the American Telephone and Telegraph Company for approval of a plan to increase common stock, which consisted of 25,000,000 shares of the par value of $100 a share, to 35,000,000 shares of the par value of $100 a share, were approved by the New York Public Service Commission in an opinion and order handed down April 17, 1947. In applying for the commission's consent it was contended by the company that the latter comes within the exemption provision of the New York Public Service Law—§ 101. This section states that no telephone or telegraph company shall be required to apply to the commission for authority to issue stocks, except for the acquisition of property, the construction, completion, extension, or improvement of its facilities, or the improvement or maintenance of physical plant or service facilities or for the refunding or discharge of financial obligations.

A dissenting opinion by Commissioner Arkwright dated April 3, 1947, was inadvertently identified as an opinion of the commission majority which led to an erroneous digest of this decision of the New York commission, which appeared in the May 22nd issue of PUBLIC UTILITIES FORTNIGHTLY at page 719. It was therein stated as the commission's opinion that the petition to increase the capital stock was denied on the basis of the lack of public interest. This, of course, was Commissioner Arkwright's view and contrary to the position taken by the majority. *Re American Telephone & Telegraph Co. (Case 12873).*

Meter Tampering Warrants Service Denial

NEW YORK laws permit an electric company to discontinue service for failure or refusal to pay lawful charges. Altering or tampering with meters or equipment of public utilities is a crime. Existence of tampering is presumptive evidence that the person to whom service is being furnished has, with intent to defraud, created or caused to be created the conditions existing.

Basing its rulings on these legal provisions, a New York court held that where there has been meter tampering the company's obligation to supply service to the customer ceases, and it may discontinue service without notice. In a case where a customer sought to recover money which he said had been paid under duress or mistake, the court said:

> It follows from the foregoing that, in order to establish a *prima facie* case, the plaintiff must prove that gas or electric current had been supplied to him as an owner or occupant, that he had duly paid all the charges for which he was billed after meter reading or measurement by the company, and that the company thereafter discontinued the service until he paid an additional sum of money for alleged unmetered current consumed and that he made such payment under protest to obtain a restoration of the service.

Esposito v. Consolidated Edison Co. of New York, Inc. 68 NYS2d 868.

Questioned Accounting Items Considered In Securities Issue Case

THE New York commission considered and made recommendations as to a program presented by the Rochester Gas & Electric Corporation involving the issuance of common stock, preferred stock, and mortgage bonds. Outstanding bonds may be refunded at lower interest rates, but the most urgent need seems to be new money for construction.

The company must raise considerable sums of money for new construction and is limited as to the amount of short-term borrowings under Securities and Exchange Commission rules. During the war period, when it was unable to construct additional facilities, the company redeemed a large amount of preferred stock from its unused cash resources, effecting a considerable saving in dividends.

There has been a great increase in the demand for electric, gas, and steam service in the territory. The need for additional gas plant is brought about principally by the situation common to most gas companies; namely, the increase in demand for house heating.

Book figures, said the commission, could not be accepted at their face value. Some items had been questioned by the commission, and the depreciation reserve might be inadequate. The commission, in *Re* Rochester Gas & E. Corp. (1946) 63 PUR(NS) 501, had disallowed a claim for water rights. The courts had set aside the order and directed further proceedings before the commission, in Rochester Gas & E. Corp. *v.* Maltbie (1946) 65 PUR(NS) 112.

The New York commission said that the order annulled by the court was an accounting order prescribing journal entries and the items had the same status as any items questioned by the commission in an accounting case and not yet finally decided.

The total of questioned items and the possible deficiency in depreciation reserve would exceed earned surplus. The commission suggested three possible methods for taking care of the questioned amounts not provided for: (1) by a contribution from the parent company, which owns all the common stock; (2) by a transfer from the stated value of the common stock to an account designated "Unearned Surplus-Special"; and (3) by reservations of income before the payment of dividends over a period of years, to be used for additions to property or for reduction of debt, with corresponding credits to reserve or special surplus account.

The commission thought that the best remedy would be to require the corporation to set aside its entire surplus at December 31, 1946, in a special earned surplus account, and at the same time to provide an improvement fund through monthly reservations of income made before any declaration of dividends on common stocks or preferred stocks. *Re Rochester Gas & Electric Corp. (Case 12966).*

Industrial Customer Fails in Attempt To Upset Rate Schedule

THE New York commission does not revise general rate schedules on the complaint of one customer in a proceeding where customers who are not parties might be adversely affected. This principle appears in a decision dismissing a complaint of an industrial customer against charges of the New York Power & Light Corporation.

The complaint included three contentions: (1) that the company's coal surcharge, as provided in its industrial rate schedule, was incorrect; (2) that the company should allow a discount on bills

of customers taking primary service at 33,000 volts; and (3) that the method of computing demand charges was incorrect.

The case, it was said, was based largely on a misconception of the powers and proper functions of the commission. In all matters the commission may make determinations only upon proof. With the exception of certain information taken from the company's reports as to the amount of steam-produced electric energy, the record was devoid of any proof whatsoever on which a factual determination could be made.

To satisfy the complaint of this customer, the whole schedule, affecting many customers, would have to be revised. It was said to be impossible to meet the desires of every customer on any particular rate. The rate structure, it was said, was reasonable and proper as a matter of theory. The question whether a rate that is sound in theory may result in improperly distributing charges to groups of customers could be raised in a general rate investigation, but this was not such an investigation.

The customer assumed that the coal surcharge was a direct reflection of the exact increase or decrease in cost of fuel used to generate electricity. This, it was said, was not entirely true. Many other factors must be considered. If the coal surcharge were to be reduced, it might be necessary to increase some other factor to obtain an equivalent income.

Under the terms of the rate in question the utility stated that service would be supplied at the voltage designated by them. In this case the voltage was 33,000 volts. This was said to be a reasonable provision, since the factors comprising the rate as a whole consider that the utility will be required to supply service only at such voltage as it may have available in the vicinity, considering other necessary factors of availability, adequacy, and continuity of service.

A discount was provided when service was supplied at 50,000 and higher voltages. The chief factor which distinguished service at above and below 50,000 volts was that service at above that figure could be made from transmission lines, while service at below that figure must be made from the distribution system, and the discount accordingly represented a difference in the cost of furnishing service.

There was no question that the utility was billing the customer correctly in accordance with the filed schedule. The rate required that the maximum kilowatt demand and maximum reactive kilovolt-ampere demand should be used for billing regardless of the time interval in which they might have occurred.

The commission referred to the elements which must be considered in making a rate and the basis for making a demand charge. Billing for reactive kilovolt-ampere demand at the time of maximum kilowatt demand, said the commission, would not consider the maximum value of reactive kilovolt-ampere demand which usually occurs at some time other than maximum kilowatt demand.

Charges for reactive kilovolt-ampere demand under a filed rate schedule were said to be largely within the control of the customer and might be avoided to a large extent by the efficient use of his plant or by installing corrective equipment. *Glens Falls Portland Cement Co. v. New York Power & Light Corp. (Case 12885).*

Customers Denied Right to Intervene in Security Issue Proceedings

THE Michigan commission authorized Upper Peninsula Power Company to sell bonds and preferred stock and to issue common stock to be exchanged for outstanding common stock of the Copper District Power Company, Houghton County Electric Light Company, and the Iron Range Light & Power Company.

Applications by coöperatives and a municipality for intervention were denied.

These parties participated in the hearing and cross-examined witnesses to the same extent as though their permission to intervene had been granted. They had filed rate complaints against the companies to be consolidated. The commission stated its intention to make no further order permitting sales of common stock to the public until the rate complaints have been heard and passed upon. Such action would protect any interest a consumer might have in the proceeding.

The commission was doubtful that these complainants were proper parties, or that they, as consumers and customers of the consolidated companies, had interests which could be jeopardized in the proceedings. None of them presented the issue that the Upper Peninsula Power Company would not apply the funds derived from the issue of these securities to lawful purposes, or that such issue and amount were not essential to the successful carrying out of such lawful purposes. The commission was of the opinion that only the latter issues might be raised in a security proceedings. It said:

> As the commission views the situation, the only possible right which may be impaired by its action is the statutory right of review. The commission, in the event court action is taken, desires to have the court pass upon the question as to whether or not the persons above named are proper parties to a security hearing and whether or not they may properly be aggrieved through the commission's action. Permission to intervene before the commission is denied solely because the commission feels that the question should be saved for the court, and it has, as above stated, permitted the parties to fully participate otherwise in the proceeding before it.

Re Upper Peninsula Power Co. (D-3571).

Telephone Rate Increased on Conversion

A TELEPHONE company which was about to convert its system from magneto to common battery service was allowed a limited increase by the Georgia commission.

In discussing its jurisdiction to determine whether the magneto service which was being offered was adequate, the commission conceded that it had no jurisdiction over managerial matters. But the Georgia commission added with some force:

> . . . the commission has come to believe that it has full power and authority over all matters relating to the character and quality of service being rendered which would include a determination as to whether or not magneto service wasreasonable and adequate service.

Re Georgia Continental Telephone Co. (File No. 19377, Docket No. 8373-A).

Replacement Is Not Abandonment

THE Federal Power Commission dismissed an application by Hope Natural Gas Company for authority to abandon compressor units and auxiliary equipment and structures and for authority to construct and operate new facilities.

Removal of the facilities and their replacement without changing, impairing, or interrupting service to customers did not constitute an abandonment of facilities under § 7(b) or new construction or operation for which authority was required by § 7(c) of the Natural Gas Act.

The company showed that the units being removed were installed in the years 1904 and 1907 and had carried a heavy load for many years. They had practically worn out, and the company had experienced great difficulty in obtaining repair parts. Their continued use had become impractical.

The commission said that the company proposed nothing other than replacement

of worn-out and obsolete machinery with new equipment of modern design and greater efficiency. *Re Hope Natural Gas Co. (Docket No. G-654).*

Abandonment of Water System Authorized

THE application of a water utility for authority to abandon service was approved by the Montana commission where the number of potential customers did not justify expenditure of the amount of money necessary to put the system in good operating condition.

A suggestion by the customers that they each pay part of the repair bill was rejected by the commission. Such community projects were said to be outside the Montana commission's scope of authority. *Re Tracy (Docket No. 3493, Order No. 1917).*

Other Important Rulings

THE Washington Department of Transportation authorized an increase in intrastate railroad rates to the same extent as interstate railroad rates had been increased, in order to avoid undue and unreasonable discrimination between territories, to protect the interests of local shippers, and to afford the local railroads the necessary revenue to meet increased operating expenses and render service. *Re Northern P. R. Co. (Cause Nos. FH-7530 [1942], T-8090 [1947]).*

The Federal District Court for Western Louisiana summarily dismissed a shipper's claim that a railroad, which over a long period of time had accepted payment for transportation at less than the legal rate, was barred from bringing suit to recover the uncollected balance. The court pointed out that such a defense, technically called estoppel, is not available in an action to recover charges for shipments covered by the Interstate Commerce Act. *Louisiana & Arkansas R. Co. v. Arkansas Oak Flooring Co. (1947) 69 F Supp 372.*

The Pennsylvania commission overruled taxpayers' objections to its assuming jurisdiction over the construction of a bridge which was part of a major crossing improvement. Under the Public Utility Law, the commission pointed out, it was given jurisdiction over the construction, improvement, protection, and abolition of grade crossings. Such authority would include any project which is a necessary part of a grade crossing elimination. *Re Allegheny (Application Docket No. 64428).*

The Ohio commission, in examining motor carrier rates for the purpose of determining the need for additional revenues, recognized that the rate fixing is the prerogative of management but pointed out that rates are still within the control of the commission, which must assure itself that the charges fixed are not unreasonable or discriminatory. *Re Increase in Motor Carrier Rates (Investigation Docket No. 179).*

The Wisconsin commission, in authorizing the substitution of busses for streetcars in the Milwaukee metropolitan area, held that it had jurisdiction to authorize the substitution where the company operated not only under a street railway franchise in the area but also had a certificate as a common motor carrier of passengers to render urban and suburban service over such routes as might be prescribed by the commission and the respective municipal governing bodies. *Milwaukee v. Milwaukee Electric R. & Transport Co. (2-SR-1752).*

NOTE.—The cases above referred to, where decided by courts or regulatory commissions, will be published in full or abstracted in *Public Utilities Reports.*

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¶ *Public Utilities Reports (New Series) are published in five bound volumes annually, with an Annual Digest. These Reports contain the cases preprinted in the issues of* PUBLIC UTILITIES FORTNIGHTLY, *as well as additional cases and digests of cases. The volumes are $7.50 each; the Annual Digest $6.00.*

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Re Old Forge Electric Corporation

Case 12307
April 2, 1947

PROCEEDING *involving service and rates to customers in a resort area; service and rate requirements established.*

Service, § 230 — Reconstruction of line — Adequacy of return.

1. It is uneconomic for an electric company to make considerable expenditures to rebuild a system constructed to serve a few customers, but deteriorated to the point where service could not be continued, unless the company can be assured of continued customers and an adequate return, since otherwise the cost of service would be a burden upon other customers, p. 33.

Service, § 230 — Duty to serve — Adequacy of compensation.

2. An electric company which has solicited business and successfully opposed the effort of another company to extend service to a small group of customers (primarily summer resort facilities) should be required to continue to furnish that service, although it cannot be expected to render service which will not be compensatory, p. 33.

Rates, § 260 — Electricity — Surcharge on extension.

3. An electric company, required to rebuild a line to serve a small group of customers, was directed to establish a rate schedule based upon the furnishing of power under its general rate schedule and a surcharge computed on the estimated cost of the line, p. 35.

Service, § 243 — Rebuilding of electric line — Condition as to patronage.

4. An electric company, required to rebuild a line for service to a small group of customers where general rates would not produce an adequate return and a surcharge was necessary, was required to build the line and serve such customers as wished to avail themselves of power upon their furnishing of satisfactory evidence that they would take power for a period of not less than five years, p. 35.

APPEARANCES: Philip Halpern, Counsel (by Laurence J. Olmsted, Assistant Counsel), for the Public Service Commission; Le Boeuf & Lamb (by Lauman Martin), Attorneys, New York city, for Old Forge Electric Corporation; Max Berg, Raquette Lake, Secretary, Raquette Lake Boys Club; Walter Burg, Raquette Lake, President, Tioga Point, Inc.; Herbert A. Birrell, New York city, partner-owner, North Point, Inc.; R. A. Hayward, Raquette Lake, partner-owner, North Point, Inc.

EDDY, Commissioner:

[1, 2] This proceeding involves service to certain people in the vicinity of Raquette lake. It has previously been before the Commission in Case 10183, 41 PUR(NS)106, when the

company sought in 1940 to discontinue service. The facts are not substantially in dispute. Part of the company's system extends to Raquette Lake village on Raquette lake. Sometimes in the past the company built an extension of that system, which served some five or six customers in the vicinity of Raquette lake. This particular system was extremely expensive to build and it consisted in part of submarine cable and had a total length of approximately 18,825 feet. There may be some question as to whether the system as built was properly designed and it appears that there were considerable difficulties in its maintenance. However, for a number of years various customers received service. Without describing these customers in detail, they were primarily summer resort facilities, boys' camps, a hotel operated on the club basis, etc.

Eventually the company's system reached a point where it could no longer be maintained and, while the cable and wire and poles still physically exist, the breaks in the system are such that it cannot be repaired and for any practical purpose the system must be entirely rebuilt to give any service, and no service is presently being provided.

The loss of the service is a serious detriment to the people who previously had it. On the other hand, it is uneconomic for the company to make considerable expenditures if it cannot be assured of continued customers and an adequate return. Otherwise, the cost of the service would be a burden upon other customers of the company.

Without discussing the financial situation of the company in detail, it is a well-known fact that the company's rates are high and that any general increase in rates probably would not add to the company's revenues but might have the effect of losing customers. The company, however, solicited this business. The New York State Electric and Gas Company desired to serve the village of Raquette Lake and the Old Forge Company successfully fought that effort and built its lines to that community and extended them to serve these customers. Having undertaken the service, in equity and in law, the company should be required to continue to furnish that service. The company, however, cannot be expected to render service which will not be compensatory.

This, as I understand it, is the gist of the Commission's decision in Case 10183, *supra*. To quote from the opinion of Chairman Maltbie:

"It is intimated that there are no rates which consumers will pay that will yield a fair return upon the fair value of the property used to serve these few consumers. That may or may not be so. There is no proof of the fact. The way to prove it beyond peradventure is to establish new rates and then to ascertain whether consumers will pay them. If consumers will not pay just and reasonable rates, the company is under no obligation to provide service. If they are willing to pay just and reasonable rates, the company must serve them, particularly in view of the circumstances under which it began service nearly twelve years ago." (41 PUR(NS) at pp. 108, 109).

An engineer of the company estimated that the cost of construction to rebuild the line in dispute would be approximately $21,000. This esti-

mate was checked by engineers for the Commission, who agreed as to the figure for materials but questioned the cost of labor. The company testified that it would not have employees available to construct the line and it would probably have to be built under contract. With the present uncertain costs of labor, it is difficult to come to any exact conclusion as to the cost of construction; but it is probable that, if the work is done by contract, that the company's estimate is not grossly excessive.

At the time the company sought to discontinue service in 1940 the company estimated the cost of replacing the line to be slightly under $14,000. There is no evidence in the record as to the original cost of constructing the original line.

Assuming that that figure is correct, the next question is what rates would be compensatory. The company has offered to furnish service upon the basis that it will receive annual rates of one-third of its capital expenditure. Dr. R. F. Bucknam, chief utilities rates analyst, testified that based upon a 15-year life for plant, a fair rate would be in the vicinity of 22½ per cent. This rate, of course, would be affected by the life of the plant and by a number of other factors.

[3, 4] Dr. Bucknam further testified that a different method of determining a fair rate to be paid could be based upon the system of extensions adopted by this Commission for water and gas companies. In effect, that plan provides for 100 feet of free extension for each customer, the payment by the customer of the normal charge for power and a surcharge on the cost of the additional extension to him. Where the extension involves one or more customers, the amount of the surcharge to any customer would not be increased by reason of the fact that other customers are upon the line. The formula for water and gas extensions is a surcharge of 9 per cent. Based upon increased elements of maintenance, depreciation, and other factors, Dr. Bucknam testified that a fair surcharge for this electric line would be 14 per cent.

The company has offered to give credit for one contribution made in the past toward the construction of the original line. The persons desiring service claim that, as part of the rates which they previously paid, they too have contributed; and likewise, there is a disputed item of $5,000 contributed by a local municipal body. The contention, however, has been made in this case, and previously, that the contribution was solely to bring the line to Raquette Lake and had nothing to do with this extension. The only contribution to be considered in this case is one for the benefit of the property now owned by Mr. Walter Burg.

There is no special rate schedule which is separately applicable to these customers. If there is any provision of the company's tariff which does apply, it is the section relating to line extensions which is as follows:

"Line Extensions

"The company will serve annual or seasonal consumers on line extensions as long as the estimated cost of the extension, after crediting contributions by consumers, is less than three times the company's estimate of the reasonably permanent annual revenue to be obtained. Otherwise the con-

sumers on the line extensions will be served only after satisfactory arrangements have been made by the consumers to compensate the company for the disproportionate expense of rendering such service and to insure the necessary support for the investments required. Annual guaranty by consumers on line extensions shall never be less than that provided in the applicable service classification nor less than $3 net per month for annual consumers nor less than $35 net per season for seasonal consumers."

It seems, however, that this particular provision is intended to apply to new customers. It would, of course, govern if the company's contention is correct that the service desired is in the nature of new service. The merit of this contention is discussed hereafter.

Discussion

The general principles applicable here were determined in Case 10183, *supra*, that is, that the company is required to render service but is entitled to charge rates which are compensatory.

The parties here have reached something of a stalemate. The company's position is that it will furnish service when it is assured that it will be paid for it. The proposed customers state they desire service but are unwilling to bind themselves to a commitment for that service until they know how much it is going to cost them. It, therefore, becomes necessary to go further than stating the general principles which should apply in this case. It is necessary that a definite rate be established so that both the company and the proposed customers will know the rate under which service is to be rendered.

Taking the company's estimate of the proposed cost of the line of $21,000 and applying the surcharge figure of 14 per cent testified to by Dr. Bucknam, assuming that the three customers that appeared upon the hearing agree to take service, and giving allowance to the contribution, the amount of the annual surcharge which would be paid would be $714.28 by Max Berg, $534.73 by Walter Burg, and $1,409.80 by North Point Inn. If Max Berg alone takes service, the amount of surcharge would be $1,280.50. If other customers come on the line, the surcharges would be charged in accordance with the formula testified to by Dr. Bucknam. There, however, is no present indication that any except the three customers who appeared at the last hearing will take such service. In addition to the surcharge, the customers will pay the standard charges for power established by the company's rate schedule.

There remains but one further question for discussion, and that is the company must be assured of some permanence of service. On the basis that all three customers will take service, the company's income from the surcharge would be $2,658.81. Obviously the company should not be required to make an investment of $21,000 for one year's service.

The proposed customers argue with considerable merit, if the line had been replaced at the time service was discontinued, that the cost of such a line would have been $14,000 and that the extra cost due to the company's delay should be borne by the company. However, it is not at all certain that

during the war years which followed almost immediately after interruption of service that the construction of the line would have been possible or justified by the company. However, if the customers take service for a period of five years, the company will recoup the amount it would have been necessary for it to spend had it installed the line at the time service was interrupted.

The customers likewise challenge the company's estimate of $21,000. Upon the record here, considering all the factors, the company's estimate does not appear unreasonable. It may be the construction can be done for less. Taking all of the factors into consideration, a fair solution would appear to be an order requiring the company to establish a rate schedule based upon the furnishing of power under its general rate schedule and a surcharge of 14 per cent as previously outlined above, computed on the estimated cost of $21,000, the line to be built to such of the customers as wish to avail themselves of power upon the furnishing of satisfactory evidence by proposed customers that they will take power for a period of not less than five years. In the event, after construction of the line, it appears that the company's estimate is grossly excessive, an application should be entertained to reduce the amount of the surcharges and to base the surcharges upon the actual cost of the construction of the line. Since the company might have rebuilt the line at the time when materials were cheaper, and the company's present estimate is being used, no increase in the surcharge should be permitted in the event the cost of the line exceeds the estimated $21,000.

Conclusion and Recommendation

The company should be required to establish a rate schedule based upon a surcharge of 14 per cent on the estimated cost of the extension of $21,000, or that portion of the extension which is built, giving credit for the contribution of $1,280 made for the benefit of the Walter Burg property, if that property is served. Upon receiving evidence of the agreement of any proposed customer on the line that he will take service under that schedule for a period of not less than five years, the company should be required to immediately start construction of the line. The fixing of the rate should be without prejudice to an application to reduce the rate in the event actual cost of construction of the portion of the line built is less than the estimate as shown by the record.

MISSOURI PUBLIC SERVICE COMMISSION

Re Intercounty Electric Cooperative Association et al.

Cases Nos. 11,004, 11,005
March 18, 1947

APPLICATION *of electric association for authority to sell property within a city to the city government and for approval of its conversion into an electric coöperative; sale and conversion to coöperative approved.*

Consolidation, merger, and sale, § 18 — Sale of electric property to municipality.

1. Commission approval was given to the sale by an electric association of its property within a city to the municipal government where the transfer would not impair the association's ability to serve its patrons outside the city and where the city, by vote of its people, had been authorized to acquire and operate the property, p. 40.

Consolidation, merger, and sale, § 13 — Sale by association — Commission approval.

2. An electric association which has come under Commission jurisdiction may not sell any part of its property without receiving prior Commission authorization, p. 40.

Mutual companies, § 1 — Electric association — Conversion to rural electric coöperative.

3. An electric association was authorized to become a rural electric coöperative and to operate under the provisions of the Rural Electric Act after it had divested itself of all urban property and limited its service to rural areas, p. 40.

Coöperatives — Purchase of property — Purpose of rural electrification loan.

Statement, in dissenting opinion, that loans by the Rural Electrification Administration for the purpose of purchasing property where the consumers are receiving central station service are contrary to the spirit of the Rural Electrification Act, which is to provide electric service to farmers' homes and rural areas where there is no electric service, p. 42.

Mutual companies, § 1 — Conversion of utility — Commission jurisdiction over coöperative — Public interest.

Statement, in dissenting opinion, that it is disadvantageous to the public to permit a utility to remove itself from the jurisdiction of the state Commission by converting to a coöperative association, p. 43.

Consolidation, merger, and sale, § 28 — Establishment of coöperative — Service consideration.

Statement, in dissenting opinion, that approval of the sale of electric property and the conversion of an electric utility to a coöperative should be with-

held where the evidence fails to show that the coöperative could legally serve all prospective customers, p. 44.

(WILSON, Commissioner, dissents in separate opinion.)

By the COMMISSION: The application in the above Case No. 11,004 is a joint application of Intercounty Electric Cooperative Association, a corporation, as the seller and the city of St. James, Missouri (a municipal corporation) as the buyer, for authority of one to sell to the other generally all the electric distribution system owned and operated by the said Intercounty Electric Cooperative Association within the city limits of St. James, Missouri, and the transmission line extending from such substation therein to the city limits of St. James, but not including the 380-kilovolt ampere substation and the real estate upon which it is located, all as more specifically set out and described in the application and our orders to follow.

The application in Case 11,005 is the application of Intercounty Electric Cooperative Association for this Commission's approval of its plan and purpose to be converted into a cöoperative subject to the provisions of the Rural Electric Cooperative Act of 1939, Laws of 1939, p. 298, et seq., Missouri R. E. A. 5386–5417, if and when the sale described in Case No. 11,004 is approved and consummated.

The applications in both cases were set for hearing upon notice to all interested parties in the hearing room of this Commission on Monday, February 10, 1947, at 10 o'clock A. M., and the cases were then and there heard by agreement of all parties upon a joint record by a member of this Commission. At such hearing the applicants in the said Case No. 11,004 and Case No. 11,005 appeared by counsel and other representatives. A letter from the Rural Electrical Administrator, holder of a mortgage lien on Intercounty's property, was filed showing, among other things that such administrator has no objection to the sale proposed in Case No. 11,004 or the proposed conversion set forth in Case No. 11,005. There were no protestants in either of said cases.

The said seller as the owner of the property to be sold has agreed to sell the same to the city of St. James, Missouri, a municipal corporation, for the base price of $58,000 (which sum is subject to adjustments set forth in the contract between the seller and the buyer) all free and clear of all liens excepting tax adjustments as are provided in said contract. Both the seller and the buyer showed their respective corporate authorizations for the sale and purchase at the price and upon the terms set forth in the contract of sale.

Respecting the proposition for the conversion of Intercounty in Case No. 11,005 the proposed articles of conversion with respect thereto have been duly approved by the board of directors of Intercounty and also by its members as evidenced by resolutions adopted by the board, and by a special meeting of its members, certified copies of all which are attached to the application and made a part thereof and were introduced in evidence. Such proposition of conversion was submitted to a vote of the members of Intercounty and was approved by the

affirmative vote of 1,866 for to 5 against the sale and the conversion. A copy of the proposed articles of conversion is attached to and made a part of the application and was introduced in evidence.

[1] In said Case No. 11,005 the testimony shows and we find the facts to be, that in the event the sale of the properties to St. James, Missouri, is approved, then said Intercounty thereafter will not be serving any community, city, or town or village having a population of 1,500 or more, and the transfer of such properties will not impair the ability of Intercounty to continue to serve its patrons.

The evidence shows, and we find the facts to be, that the city of St. James, Missouri, by proper vote of the people has been authorized to purchase these facilities of electric power and light within their city and of a transmission line therefrom to their sewage disposal plant outside the city limits (with the exceptions mentioned herein and in the contract of sale); that such transmission line outside of the city is only to serve the city's purpose in connection with its sewage disposal plant and no others are being, or will be, served from such line; that the citizens of St. James have also voted the necessary authority to borrow the purchase price of such facilities. According to the 1940 census the city of St. James had a population of 1,812. It is a city of the fourth class and under the law is authorized to own and to operate such electric facilities within its borders and to own and to operate a transmission line therefrom to serve the city's purpose outside of the city. Arrangements have been made for the city to purchase electric current from the seller for the city's own use and is so serving its people. We find no objection to such sale and, in orders to follow, such sale will be approved authorizing the transfer of the property, with the exclusion mentioned, to be free of liens on said property upon the consummation of the sale, all as is provided in the contract.

Respecting Case No. 11,005, the evidence shows, and we find the facts to be, that Intercounty operates in rural areas in Crawford, Dent, Gasconade, Laclede, Maries, Phelps, Shannon, Texas, and Wright counties, and that upon the consummation of the sale of the properties to the city of St. James, the said Intercounty Electric Cooperative Association will not be serving any areas except rural areas, that is to say it will not be serving in any city, town, or village which has a population of 1,500 or more.

[2, 3] Intercounty, when it acquired its properties, by an amendment to its charter so as to serve the public generally as to its facilities then held and thereafter acquired, became completely under our jurisdiction as to such properties and has since operated under our jurisdiction. Before it can sell its properties or any part thereof our order authorizing it to do so is required. Upon our approval in Case 11,004 of the sale of these facilities located within the city of St. James, to the city of St. James, there is no further reason why Intercounty should not be permitted to convert and to become under and to hereafter operate under the provisions of the Rural Electric Act above mentioned and such authority will be given in the orders to follow.

Entertaining these views, it is, therefore,

Ordered: 1. That, respecting Case No. 11,004, Intercounty Electric Cooperative Association (a corporation) be, and it is, hereby authorized to sell and to convey to the city of St. James, Missouri (a municipal corporation) and the city of St. James, Missouri, is hereby authorized to buy from the Intercounty Electric Cooperative Association under all the terms of their agreement attached to their application and for the base price of $58,000 subject to the adjustments covered by their contract at the time of the consummation, the following described property, to wit:

"(1) The electric distribution lines owned or operated by Intercounty and located within the present city limits of Saint James, including, without limitation, all extensions, taps, laterals, and service and connecting lines attached or connected thereto which are owned or operated by Intercounty and are located within the present city limits of Saint James; and

"(2) The single phase 2,300-volt electric distribution line and street lighting equipment located adjacent to the city limits of Saint James along the west edge of Highway No. 68 (Jefferson road) and along the north edge of Parker road; and the distribution line extending along the north side of Highway No. 66 in an easterly direction from the city limits of Saint James to the new sewage disposal plant of Saint James; and

"(3) All extensions, taps, laterals, underbuild and service and connecting lines, and all poles, posts, crossarms, wires, cables, conduits, mains, pipes, tubes, transformers, insulators, meters, switches, meter bases, electrical connections, lamps, fuses, junction boxes, fixtures, appliances, street lighting equipment, machinery, hardware, and other equipment which are incorporated in or attached or connected to any of the electric lines or facilities included in the Saint James system, all of which shall be deemed to be a part thereof; and

"(4) All leases, easements, rights of way, rights of ingress and egress and other interests in land, and all contracts and privileges granted to or owned or held by Intercounty, giving to or vesting in Intercounty the right (inchoate or complete), license or privilege to construct, operate, or maintain upon lands owned or held by others any of the physical properties included in the Saint James system; and

"(5) All agreements and contracts granting privileges for railroad, power line, telephone or telegraph line crossings or parallels, and all joint use or occupancy of poles, right of way and encroachment agreements, granted to or owned or held by Intercounty with respect to any of the physical properties included in the Saint James system; and

"(6) All existing contracts relating to the purchase or sale of electric energy by Intercounty from or through any of the electric lines or facilities included in the Saint James system; and

"(7) All books, records, contracts, abstracts, deeds, maps, drawings, charts, tracings, blueprints, diagrams, engineering and accounting data, correspondence and memoranda, books and periodicals relating solely to the Saint James system;

"*Reserving and excepting* from the

properties heretofore particularly described all right, title, and interest of Intercounty in and to the following:

"(a) The 380-kilovolt ampere substation located within the city limits of Saint James, together with the real estate upon which such substation is located, all substation equipment and facilities and the transmission line, extending from such substation to the city limits of Saint James; and

"(b) Properties of any nature or description owned by Intercounty and located outside the existing limits of Saint James other than the properties described in paragraph (2) above."

All to be so conveyed free and clear of all liens excepting for tax and other adjustments as are provided in the contract of sale.

Ordered: 2. That, respecting Case No. 11,005, Intercounty Electric Cooperative Association, when and if the sale authorized under *Ordered:* 1 is consummated and closed, is hereby authorized to become converted into a coöperative under the provisions of the Rural Electric Cooperative Act of 1939 (Laws 1939, p. 298 et seq.) and has our approval thereof.

Ordered: 3. That this order shall be in effect ten days from the date hereof, and that the secretary of the Commission shall forthwith serve certified copies of same upon all interested parties.

Commissioner Wilson dissents in separate opinion.

WILSON, Commissioner, dissenting: I cannot agree with the foregoing report and order. I dissented for numerous reasons, although I did not write a separate opinion, in Case No. 10,600 (1945) 60 PUR(NS) 132, wherein the Commission in a majority opinion authorized the sale of all the securities, long-term and open account indebtedness, as well as all the common stock of Missouri General Utilities Company by Associated Electric Company to Genevieve Electric Cooperative, Inc., Intercounty Electric Cooperative Association, Scott-New Madrid-Mississippi Cooperative Association, Crawford Electric Cooperative, and the city of Rolla, Missouri, an incorporated city of Missouri of the fourth class, and also the dissolution of said Missouri General Utilities Company and the distribution of all its assets, including all its certificates of convenience and necessity and franchises, held by it to such purchasers.

It is my opinion that loans by the Rural Electrification Administration such as those involved in Case No. 10,297, the Sho-Mo Case (1943) 50 PUR(NS) 257, and No. 10,600, the Genevieve Case, *supra,* for the purpose of purchasing properties where the consumers are receiving central station service are made in contravention of the act of Congress and void. The courts have repeatedly held that public officers must dispose of public money according to law and that generally in absence of statute the United States is not bound by an official's mistaken contruction of an act of Congress, and may recover money paid pursuant to such construction. Heidt v. United States (1932) 56 F2d 559; United States v. Great Northern R. Co. (1932) 57 F2d 385; Pine River Logging & Improv. Co. v. United States (1902) 186 US 279, 46 L ed 1164, 22 S Ct 920; Wilber National Bank v. United States (1935) 294 US 120, 79 L ed 798, 55 S Ct 362. Cer-

tainly, such loans are contrary to the intention of Congress and violate the spirit of the act which is to provide electric service to farmers' homes and rural areas where there is no electric service. To authorize sales where the purpose of the act is defeated and the result is that those farmers needing electric service are actually deprived of it because the money appropriated by Congress for that purpose is used for other purposes is detrimental to the public interest and has a tendency to destroy private enterprise and put the government in business.

In previous cases before this Commission involving similar issues I have pointed out the disadvantages to the public in removing utility properties from the jurisdiction of the regulatory body of the state of Missouri, the Missouri Public Service Commission, and also in changing the status of a utility property which serves the public generally to a coöperative which serves only its members and an additional number equal to 10 per cent of its members. When an electrical utility company is removed from the jurisdiction of the Missouri Public Service Commission its consumers have no place to go for relief from increased rates and inadequate service, if any. But in Case 10,600, *supra,* in which the sale to Intercounty Electric Cooperative Association was authorized, the authorization was made subject to the condition that Intercounty Electric Cooperative Association before the effective date of the order amend its charter powers or reincorporate so as to serve the public generally. In that case, 60 PUR(NS) at p. 149, the Commission said: ". . . If the condition which has been mentioned will be complied with, both Genevieve and Intercounty will be public utilities as to all their properties respectively." And again, at p. 151: ". . . These coöperatives, of course, will be under our supervision and regulations respecting depreciation reserves, rates, etc., and the administrator is requiring greater depreciation allowances than M.G.U. has been exacting." Now, the Commission by its order herein repudiates this condition in Case No. 10,600, *supra,* and authorizes the sale of a portion of the property to a municipal corporation and authorizes the organization of a coöperative under the Rural Electric Cooperative Act of 1939 to operate the remainder of the property, thus removing all consumers from the protection of state regulation.

In the case of State ex rel. Consumers Pub. Service Co. v. Public Service Commission (1944) 352 Mo 905, 54 PUR(NS) 71, 85, 180 SW2d 40, the supreme court of Missouri said:

"Of course, if sufficient consumers of the area would not become members of the coöperative (so that it could legally serve all prospective consumers, at least within the 10 per cent limit above its membership) the Commission could not properly authorize a transfer, ..."

In my dissenting opinion in Case No. 10,370 (1944) 54 PUR(NS) 40, 56, 57 (in Re Citizen's Electric Co. to sell and the Laclede Electric Coöperative to purchase etc.) I expressed my views as follows:

"My construction of the above language is that before this Commission can lawfully authorize a transfer it must affirmatively appear that the Coöperative can legally serve all pro-

spective consumers within the area being served by the transferor utility. If this condition is not present the court said that the Commission cannot properly authorize a transfer. The court points out the fact that under the Rural Electric Cooperative Act of 1939 a coöperative can legally serve 'other persons (not members, governmental agencies and political subdivisions) not in excess of 10 per centum of the number of its members.' (Section 5387 Rev Stats Mo 1939.) After making allowance for this limitation, the Commission has no authority to authorize the transfer unless all prospective consumers within the area will continue to have service legally." Also,

"The court having stated the matter of the ratio between members and nonmembers as one affecting our jurisdiction, it is my view that such ratio must affirmatively appear in the record by clear and convincing proof as a present existing fact and not be left to the chance that at some time in the future the condition will be attained which the supreme court has held is necessary in order for the service rendered by the coöperative to be legal and a transfer of utility property to a coöperative to be authorized as a matter of law."

The portion acquired by Intercounty by transfer from Missouri General Utilities as set out in the report and order in said Case 10,600, *supra,* includes 15 miles of rural distribution line in the vicinity of Rolla, 9.4 miles of 13.2-kilovolt transmission line extending from the Sho-Mo substation east of Rolla to the M.G.U. substation at St. James, a substation at St. James, and the distribution facilities within and in the vicinity of St. James. It was further stated in said report that this portion of the facilities was then serving 591 electrical consumers, including 451 in St. James and 140 farmers and other consumers in the surrounding area, and that St. James was a city of 1,812 population.

The evidence here fails to show that the coöperative can legally serve all prospective consumers. The only evidence touching this matter is the testimony of W. R. Fisher, manager of Intercounty Electric Cooperative Association, who stated that if the sale to St. James should be approved the coöperative would then be serving between 2 or 3 per cent nonmembers. The evidence does not even show the number of prospective consumers. Nor does the record in 10,600, *supra,* which was introduced in evidence herein, supply this defect. In order to meet the proof required the evidence should show the number of consumers who are members of the coöperative and also the number of present consumers outside of St. James who are nonmembers, as well as the number of prospective consumers in the area, so that the Commission can determine whether the number of nonmember consumers may exceed 10 per cent of the membership, and whether the coöperative will be in a position to serve all prospective consumers or some will be left without electric service. The evidence is lacking in this detail, which has an important bearing upon the issue of whether the proposed transfer will be detrimental to the public interest.

The evidence as to the value of the property is speculative and the value was arrived at upon bases which are

not generally considered as acceptable for valuation purposes by this Commission.

Intercounty Electric Cooperative Association is a coöperative organized under the Agricultural Cooperative Act, Art 28, Chap 102, Rev Stats Mo 1939. In accordance with the condition in *Ordered* 1 of the report and order of the Commission in Case No. 10,600, *supra,* this coöperative has attempted to amend its charter so as to serve the public generally, and the records of the Commission include a certificate of the secretary of state showing a purported amendment by the filing of an affidavit of "extending business purposes" and recites ". . . has in all respects complied with the requirements of law governing the amendment of corporations organized under Art 28 of Chap 102, Rev Stats of 1939 and amendments thereto." The date of this amendment is shown as October 29, 1945. While the new corporation code passed by the sixty-second general assembly provides that a corporation may amend its charter of incorporation so as "to change, enlarge, or diminish its corporate purposes," it is my opinion that this code does not apply to an agricultural coöperative, and that § 14411 Rev Stats Mo 1939 Amendments to Article applies in this case and that the Intercounty Electric Cooperative Association is in the same situation as Sho-Mo Power Cooperative, and that it should reorganize in accordance with the law before coming to this Commission for approval of a sale as has been required of the Sho-Mo Power Cooperative. It appears to me that the legal status of this company is such that it may become involved in litigation.

Upon consideration of all the evidence it is my opinion that the proposed transfer would be detrimental to the public interest and contrary to the public welfare.

FEDERAL POWER COMMISSION

Re Pennsylvania Power & Light Company

Docket No. IT-6030
February 18, 1947

APPLICATION *by power company for order disclaiming jurisdiction over property acquisition; granted.*

Consolidation, merger, and sale, § 13 — Necessity of Commission approval — Approval by other Commission.

A power company subject to the provisions of the Federal Power Act is not required to obtain authorization from the Federal Power Commission for the acquisition of facilities of another company which has secured approval of the transaction by the Securities and Exchange Commission.

By the COMMISSION: Pennsylvania Power & Light Company (Penn), a corporation having its principal business office in Allentown, Pennsylvania, on February 6, 1947, filed its application requesting disclaimer by this Commission of jurisdiction over the sale by Lehigh Valley Transit Company (Lehigh) and acquisition by Penn of certain electric facilities and related properties. It appears to the Commission from the application that:

(a) Penn is a public utility subject to the provisions of the Federal Power Act;

(b) Lehigh proposes to sell and Penn to acquire, for a cash consideration of $1,500,000, a steam electric generating station and substation at Allentown, Pennsylvania, certain properties related thereto, and substations located at Catasaqua, Sellersville, and Bethlehem, Pennsylvania;

(c) National Power & Light Company (National), a registered holding company subsidiary of Electric Bond and Share Company (Bond and Share), also a registered holding company, Lehigh, a subsidiary of National, and Penn, a subsidiary of Bond and Share, filed a joint application-declaration with the Securities and Exchange Commission under the Public Utility Holding Company Act of 1935 with respect to the proposed transaction referred to in paragraph (b) above, and on January 30, 1947, 67 PUR(NS) 152, 155, that Commission issued its findings and opinion and order granting the application and permitting the declaration to become effective. In so doing, that Commission stated in its findings and opinion that "Although the proposed acquisition by Penn is exempt from the provisions of § 10 of the act, 15 USCA § 79j, pursuant to § 9(b) (1), 15 USCA § 79i(b) (1), by reason of state Commission approval, the sale by Lehigh and acquisition by Penn are subject to the requirements of § 12(f), 15 USCA § 79*l*(f), since the transaction is between associates."

(d) The Securities and Exchange Commission further states in its findings and option that its action should not be construed as an approval "of the entries to be made on the books of Lehigh or Penn. The propriety of those entries are matters for determination by the Federal Power Commission and the Pennsylvania Public Utility Commission with respect to Penn. . . ."

The Commission having considered the aforesaid application, finds that:

(1) The proposed sale by Lehigh and acquisition by Penn have been shown by action of the Securities and Exchange Commission to be subject to the requirements of the Public Utilities Holding Company Act of 1935;

(2) The proposed acquisition of facilities by Penn is exempt by the provisions of § 318 of the Federal Power Act from the requirements of § 203 (a) of that act.

The Commission *orders* that: No authorization by this Commission is required for the proposed acquisition by Penn of facilities of Lehigh referred to in paragraph (b) above. Nothing in this order contained shall be construed as relieving Penn from any requirement applicable to it, and prescribed by the Commission's Uniform

System of Accounts, to file proposed journal entries within six months from the date of consummation of the proposed transaction.

SECURITIES AND EXCHANGE COMMISSION

Re The Detroit Edison Company

File No. 70-1468, Release No. 7284
March 17, 1947

DECLARATION *filed by subsidiary of holding company pursuant to § 7 of Holding Company Act regarding issuance of stock dividend; declaration permitted to become effective.*

Security issues, § 103 — Stock dividend.

Issuance of a stock dividend to common stockholders, in the ratio of one share for each ten shares held, was permitted where earned surplus was substantially in excess of par value of the shares to be issued.

APPEARANCES: Sullivan & Cromwell, New York, New York, by Paul W. McQuillen for the declarant; James H. Lee, for William E. Dowling, Corporation Counsel, city of Detroit; Frederick N. Jones, for the Public Utilities Division of the Commission.

By the COMMISSION: The Detroit Edison Company ("Detroit Edison"), a public utility subsidiary of American Light & Traction Company, a registered holding company, which is in turn a subsidiary of The United Light and Railways Company, also a registered holding company, has filed a declaration and an amendment thereto with respect to the issuance to its common stockholders of a 10 per cent dividend in its own common stock. The declarant states that the purpose of the issuance of such dividend is to convert into common stock capital part of its earned surplus heretofore permanently invested in fixed capital.

A public hearing was held after appropriate notice.

Detroit Edison, a New York corporation, serves the city of Detroit and surrounding territory with electricity and also supplies steam heat, gas, and water to a comparatively small number of customers. Its common stock, the only class of stock outstanding, is owned by more than 38,000 stockholders. American Light & Traction Company, the largest single holder, owns approximately 20.3 per cent of such stock.[1]

The declarant proposes to issue 636,130 shares of its presently authorized but unissued common stock of $20 par value and to distribute such stock as

[1] By its order of August 5, 1941, the Commission directed that The United Light and Railways Company and American Light & Traction Company dispose of their direct or indirect interest in Detroit Edison. Re The United Light & P. Co. (1941) 9 SEC 833.

a stock dividend to its common stockholders in the ratio of one share for each ten shares held. In connection with the issuance of such stock, the company proposes to transfer from its earned surplus to capital stock account an amount of $12,722,600, representing the par value of the shares to be issued.

In lieu of issuing fractional shares, Detroit Edison proposes to issue scrip certificates, payable to bearer, which may be exchanged for full shares at any time during a period of two years from a date thirty days subsequent to the record date of the stock dividend.[2] At the expiration of such 2-year exchange period, the company will sell at the then market price a number of shares of its common stock represented by the unexchanged scrip certificates then outstanding and will hold the cash proceeds for an additional period of four years. During such 4-year period the company will pay to scrip certificate holders, upon surrender of their certificates, their proportion of the net proceeds of such sale. Thereafter, the scrip certificates will be void and any undistributed proceeds of such sale will be the property of the company.

The balance sheet of Detroit Edison as of December 31, 1946, per books and pro forma giving effect to the proposed dividend in common stock, is shown in Appendix A hereto. As of that date the company had outstanding $115,000,000 of funded debt and $127,226,000 par value common stock divided into 6,361,300 shares of $20 par value per share. Earned surplus per books and pro forma amounted to $32,223,899 and $19,501,299, respectively. In addition the company had a funded surplus reserve of $3,102,982 for casualties and contingencies.

At December 31, 1946, the company's fixed capital aggregated $364,701,335 of which $357,443,308 represents tangible property, $6,268,623 represents Electric Plant Acquisition Adjustments, and $989,404 represents "organization, franchises, and consents." The company states that its fixed property has been built principally by the company and is carried on its books at cost. The company further states that property acquired from others is carried at the cost to the prior owners, or the company's appraised values where such costs were not available. The company also states that the excess of costs to the company over such underlying costs or appraised values is carried on its books as Electric Plant Acquisition Adjustments and is being amortized by annual charges to operating expense (Account 505), as authorized by orders of the Michigan Public Service Commission, which will result in the complete amortization of such amount by December 31, 1958. As of December 31, 1946, the net unamortized portion of Electric Plant Acquisition Adjustments was $5,118,204.

The Reserve for Retirements at December 31, 1946, amounted to $90,300,443, which represents 26.15 per cent of depreciable plant.

A condensed income statement of

[2] The company estimates that 18,249 scrip certificates will be issued, equivalent to 9,608.2 full shares. The company has represented that it will designate agents in New York and Detroit to buy and sell scrip certificates on behalf of the stockholders during the first three months of the exchange period. The company proposes to notify the stockholders to this effect and states that it will pay a portion of the cost of the agents' services.

the company for the year 1946 is shown in Appendix B hereto. As indicated therein, earnings available for common stock during 1946 amounted to $1.67 per share on the shares presently outstanding and $1.52 on the shares to be outstanding after issuance of the proposed stock dividend. Prentiss Brown, chairman of the board of directors of Detroit Edison, testified that it is the management's expectation to continue the present annual dividend rate of $1.20 per share on all shares proposed to be outstanding.

Pursuant to provisions of the company's by-laws, the board of directors of Detroit Edison is divided into three classes having 3-year terms of office, the term of each class expiring in successive years. Prentiss Brown has advised, on the basis of discussions with other members of the board, that such by-laws will be amended by action of the board of directors at its meeting on March 18, 1947, to provide for the election of all directors annually beginning with the annual meeting of stockholders in March, 1948, and that the resignations of directors whose terms extend beyond March, 1948, will be secured prior to the 1948 annual stockholders meeting. He also stated that such amendment to the by-laws would be submitted for ratification by vote of the stockholders at the 1948 annual meeting and that the management would recommend to the stockholders approval of such amendment.

Detroit Edison has estimated that the fees and expenses in connection with the proposed transaction will aggregate $74,000, including $6,000 legal fees for company counsel.

The Michigan Public Service Commission has approved the issuance of the securities and the accounting entries as proposed by the declarant.

Under the circumstances of this case, taking into account, among other factors, the extent of the earned surplus and surplus reserve (actual and pro forma), the ratio of the depreciation reserve to depreciable property, the representations of the company as to its property account, as outlined *supra*, and the actual and pro forma earnings per share of common stock of the company, we see no basis for adverse findings under § 7(d), 15 USCA § 79g (d) with respect to the proposed transaction and we find that it meets the requirements of § 7(c). The declarant has requested that our order be issued as soon as practicable and that it become effective forthwith.

We shall permit the declaration, as amended, to become effective forthwith subject to the requirements of our Rule U–24.

An appropriate order will issue.

APPENDIX A

THE DETROIT EDISON COMPANY

Condensed Corporate Balance Sheets as of December 31, 1946, Per Books and Pro Forma Giving Effect to the Proposed Dividend in Common Stock

Assets	Per Books	Adjustments	Pro Forma
Fixed capital:			
Tangible	$357,443,308	.....	$357,443,308
Electric plant acquisition adjustments	6,268,623	.....	6,268,623
Organization, franchises and consents	989,404	.....	989,404
Total	$364,701,335	.....	$364,701,335
Current and Working Assets:			
Cash	$8,560,201	.....	$8,560,201
Accounts receivable, trade	11,059,013	.....	11,059,013
Inventories	9,812,827	.....	9,812,827
Prepayments	223,375	.....	223,375
Total	$29,655,416	.....	$29,655,416
Miscellaneous Assets:			
Casualty and contingency inyestment fund	$3,102,982	.....	$3,102,982
Other	624,577	.....	624,577
Total	$3,727,559	.....	$3,727,559
Total Assets	$398,084,310	.....	$398,084,310
Liabilities			
Capital Stock			
Common stock, $20 par value (6,361,300 shs. per books 6,997,430 shs. pro forma)	$127,226,000	$12,722,600	$139,948,600
Premium on capital stock	763,517	.....	763,517
Long term debt	115,000,000	.....	115,000,000
Current Liabilities:			
Notes payable—banks	6,000,000	.....	6,000,000
Taxes	11,791,966	.....	11,791,966
Dividend payable in January 1947	1,908,390	.....	1,908,390
Other	7,819,128	.....	7,819,128
Total	$27,519,484	.....	$27,519,484
Reserves:			
Retirements	$90,300,443	.....	$90,300,443
Amortization of intangibles	1,170,472	.....	1,170,472
Casualty and contingency	3,102,982	.....	3,102,982
Miscellaneous	696,035	.....	696,035
	$95,269,932	.....	$95,269,932
Unadjusted credits	$81,478	.....	$81,478
Earned surplus	$32,223,899	($12,722,600)	$19,501,299
Total liabilities, reserves and capital	$398,084,310	.....	$398,084,310

APPENDIX B

THE DETROIT EDISON COMPANY

Condensed Statement of Income Per Books for the Year Ending December 31, 1946

Gross Earnings from Utility Operations:	
Electric	$87,776,099
Steam heating	2,383,223
Gas	587,186
Water	18,587
	$90,765,095
Deduct—Utility Expenses:	
Operating expenses	$46,867,548
Maintenance and repairs	7,356,366
Appropriation for retirements	7,620,000
Taxes—	
Federal income taxes	4,755,000
Other	8,956,784
Amortization of intangibles	278,200
Uncollectible accounts	25,678
	$75,859,576
	$14,905,519
Add—Other Income	150,440
	$15,055,959
Deductions from Income:	
Interest	$4,055,075
Other	371,031
	$4,426,106
Net Income	$10,629,853
Earnings per share:	
Per books —6,361,300 shares	$1.67
Pro forma—6,997,430 shares	$1.52

ORDER

The Detroit Edison Company ("Detroit Edison"), a public utility subsidiary of American Light & Traction Company, a registered holding company, which is in turn a subsidiary of The United Light and Railways Company, also a registered holding company, having filed a declaration and an amendment thereto under §§ 6(a) and 7 of the Public Utility Holding Company Act of 1935 regarding the issuance to its common stockholders of a 10 per cent dividend in its own common capital stock; and

A public hearing having been held thereon after appropriate notice, and the Commission having examined the record, and having filed its findings and opinion herein:

It is *ordered* that said declaration as amended be, and the same hereby is, permitted to become effective forthwith, subject to the terms and conditions contained in Rule U–24.

FEDERAL POWER COMMISSION

Mondakota Gas Company (Successor to Mondakota Development Company)

v.

Montana-Dakota Utilities Company

Docket No. G-220

Re Montana-Dakota Utilities Company

Docket No. G-402
Opinion No. 148
January 28, 1947

INVESTIGATION *of charges for common carrier transportation of natural gas in interstate commerce; rate established by Commission order of March 22, 1946, Opinion No. 132, 64 PUR(NS) 11, confirmed.*

Apportionment, § 15 — General and administrative expense.

1. General and administrative expense is allocated on the basis of supervised expenditures, p. 55.

Apportionment, § 31 — Natural gas — Consistency with original entries — Expenses.

2. Allocation to transportation operations of a natural gas pipe-line company of a portion of expense previously charged on the books to production, distribution, and commercial expenses, should be disallowed when based on unsupported estimates made in preparation for hearing in a rate case and admittedly at variance with the judgment and determinations of department heads familiar with the expenditures when the expenses were incurred and charged, p. 56.

Expenses, § 75 — Deferred maintenance — Pipe-line rehabilitation.

3. Expenditures incurred in a pipe-line rehabilitation program, involving replacement of units of property, are capital replacements and not maintenance expense chargeable to operating expenses and, therefore, not allowable as deferred maintenance, p. 56.

Expenses, § 33 — Amortization of capital — Plant not recovered through depreciation.

4. No allowance should be made for amortization of a portion of a transmission system which, it is claimed, will not be recovered through depreciation

tion, when recorded accrued depreciation plus future annual depreciation allowances will be adequate to return all cost of utility plant, p. 57.

By the COMMISSION: By order dated May 17, 1946, the Commission granted a rehearing of its order of March 22, 1946, in this matter,[1] which established a rate for the interstate common carrier transportation of natural gas by Montana-Dakota Utilities Co. ("respondent") in its Baker-Bowdoin transmission system, constructed in part upon public lands of the United States in Montana, North Dakota, and South Dakota.[2] In its application for rehearing, respondent alleged, inter alia, that operating conditions had changed and that substantially increased costs of operation and maintenance had taken place since May 24, 1944, the date of conclusion of the original hearing. By the terms of the Commission's order of May 17, 1946, the rehearing was limited to the matters involved and the issues arising out of such claimed changes in costs and operating conditions.

The proceeding came on for rehearing on August 13–15, and 19, 20, 1946, at Minneapolis, Minnesota, before a trial examiner; and evidence both oral and documentary was introduced by the respondent and the staff of the Commission. Briefs were thereafter filed by all parties to the proceeding.

Cost of Transportation Service

In Opinion No. 132, which was the basis for the order of March 22, 1946, *supra*, the Commission found that the net investment in property, a proper rate base and the total cost to respondent of transporting natural gas in its Baker-Bowdoin transmission system for the years 1942 and 1943, were as follows:

Rate Base	Year Ended Dec. 31, 1942	1943
Cost of Plant		
Compressor Stations	$810,000	$970,000
Mains	9,380,000	9,423,000
Share of General Plant	247,000	245,000
Total	$10,437,000	$10,638,000
Less: Estimated Accrued Depreciation	3,676,000	3,929,000
Net Investment	6,761,000	6,709,000
Plus: Working Capital	124,000	128,000
Total Rate Base	$6,885,000	$6,837,000

[1] Opinion No. 132, 64 PUR(NS) 11.

[2] Respondent has not as yet carried any natural gas for shippers, limiting the operation of its Baker-Bowdoin transmission facilities to the carrying of natural gas for distribution to its own customers.

Cost of Transportation	Year Ended Dec. 31, 1942	1943
Operating Expenses		
Compressor Stations	$81,410	$95,658
Mains	53,700	52,700
Share, Administrative and General	19,300	21,700
Total	154,410	170,058
Allowance for Depreciation	318,000	324,000
Taxes Other than Federal Income	111,200	112,000
Federal Income Taxes	104,000	117,600
Allowance for Return at 6%	413,100	410,220
Total Cost of Transportation	$1,100,710	$1,133,878

Upon the basis of the foregoing findings, the Commission determined that such transportation cost, including 6 per cent allowance for return, represented an average cost of 12.7 cents per thousand cubic feet and 13.5 cents per thousand cubic feet for the respective years 1942 and 1943. The Commission also found that such 1942 and 1943 transportation costs could reasonably and properly be reflected in a demand charge of $13.20 per thousand cubic feet per year and a commodity rate of 7 cents per thousand cubic feet. By its order of March 22, 1946, *supra*, the Commission required respondent to file a new rate schedule reflecting such rates and charges, and necessary service rules and regulations, to supersede and cancel rate schedules for like service presently on file with the Commission.

The testimony and exhibits introduced by the respondent at the rehearing fail to show increased costs, either of the character alleged in its petition for rehearing or otherwise, since the time of the original hearing. On the contrary, it affirmatively appears from the evidence that in 1945, the cost of service was $1,140,963, an increase of only $7,085 over like costs for the year 1943.

The books of account of respondent respecting its Baker-Bowdoin gas transmission system show that as of December 31, 1945, its investment in compressor stations and transmission lines was $1,231,839 and $9,371,121, respectively. The proper share of respondent's general plant account to be allocated to the Baker-Bowdoin transmission system is shown by the record to be $331,399. Respondent's books, as of the same date, reflected a reserve for depreciation and depletion of $4,543,599 computed according to the straight-line method of depreciation. This sum represents the correct accrued depreciation of respondent's Baker-Bowdoin transmission property as of December 31, 1945. An allowance of $135,363 for working capital is also shown by the evidence to be reasonable and proper.

Upon full consideration of the record, we find that the rate base, including net investment in gas utility property devoted to public service and working capital, for respondent's Baker-Bowdoin transmission system for the year ended December 31, 1945, upon which respondent is entitled to earn a fair and reasonable rate of return of 6 per cent,[3] is $6,526,123, computed as follows:

[3] Opinon No. 132, *supra*.

Rate Base

Cost of Plant	
Compressor Stations	$1,231,839
Transmission Lines	9,371,121
Share of General Plant	331,399
Total	10,934,359
Accrued Depreciation	4,543,599
Net Plant	6,390,760
Working Capital Allowance	135,363
Total Rate Base	$6,526,123

We further find that the cost of operation of respondent's Baker-Bowdoin transmission system for the year 1945 was $1,140,963, computed as follows:

Cost of Transportation

Operating Expenses	
Compressor Stations	$108,581
Mains	69,975
Share of Admin. and General Expenses	29,601
Total	208,157
Annual Depreciation Allowance	334,659
Taxes Other than Income	134,042
Federal Income Taxes	67,227
State Income Taxes	5,311
Allowance for Return (6% of rate base)	391,567
Total Cost of Transportation	$1,140,963

Respondent does not question the items of expense shown in the above tabulation to reflect operating cost of compressor stations and mains, "Annual Depreciation Allowance" and "Taxes other than Income"; all such amounts were taken either directly from the company's books or from exhibits introduced by respondent.

Respondent, however, does claim that the present cost of transportation is, and for the future will be, in excess of $1,140,963; that a greater share of administrative and general expense should be allocated to transportation cost; that a portion of expense charged on its books of account as production, distribution, and commercial expense should be transferred to cost of transmission; that transmission expenses will increase 30 per cent in 1946 and following years over recorded expense in 1945; that an expense allowance should be made for what is termed deferred maintenance; that such transportation cost should include a greater portion of state and Federal income taxes; and that $81,770 annually for thirty-five years should be included in transportation costs to amortize that portion of its Baker-Bowdoin transmission system which it is claimed will not be recovered through normal depreciation and depletion charges.

[1] To support its claim that administrative and general expense should be increased above that recommended by the staff of the Commission, respondent allocates a greater percentage of direct general expense and other administrative and general expense than can be justified by a consideration of the facts of record. The allocations made by respondent are general, unsupported estimates, and the amounts claimed are excessive and unreasonable, without factual support. The allocations by the Commission's staff are based on book records and the use of recognized methods usually employed in allocating general and administrative expense on the basis of supervised expenditures. (Re Mississippi River Fuel Corp. [1945] Docket No. G–462, Opinion No. 126, 4 FPC 340, 63 PUR(NS) 89.) We find that the amount of $29,601, based on respondent's accounting records, as recommended by the Commission's staff, is the correct and proper allowance for "Administrative and General Expenses" chargeable in determining the cost of transportation service for respondent's Baker-Bowdoin system.

[2] In further support of its claim that the present and future cost of transportation is in excess of $1,140,963, respondent seeks to allocate to the transportation operations of its Baker-Bowdoin system, a portion of the 1945 expense which it charged on its books to production, distribution, and commercial expenses. Respondent kept its books in accordance with the Commission's Uniform System of Accounts, and currently and to the best of its ability included in the transmission operating expense accounts all identifiable expense properly chargeable thereto. Respondent's claim that additional amounts should be allocated to transportation costs is based on unsupported estimates, made in preparation for hearing upon this matter, admittedly at variance with the judgment and determinations of department heads familiar with the expenditures at the time such expenses were incurred and charged. The claim is therefore rejected.

Respondent's claim that transmission expenses for its Baker-Bowdoin system during 1946 and thereafter will reflect a 30 per cent over-all increase above that for 1945 is without factual support in the record. The evidence shows that certain costs related to compressor station operations, including maintenance and fuel costs, increased approximately 30 per cent during the first six months of 1946 over like costs for the first six months of 1945. On the other hand, the evidence shows that these costs for the first six months of 1946 were much lower than costs for the last six months of 1945. The evidence shows only a fluctuation in such costs when costs for individual 6-month periods are considered. It may well be that expenditures relating to compressor station operations for the first six months of 1945 were unduly depressed because of war conditions and that like expenses for the last six months of 1945 were unduly inflated for some other reason not disclosed by the record. Likewise, it may be that costs in the first six months of 1946 are high and will be compensated for by lower costs in the latter part of 1946, so that on a comparable basis, costs during 1946 will not differ materially from, or exceed, those incurred during 1945. From the evidence of record it is impossible to conclude that costs relating to compressor station operations, upon which respondent bases its claim, will on an annual basis in 1946 or thereafter exceed total costs for such operations during the twelve months of 1945. Certainly there is no justification for assuming an increasing over-all transmission expense on respondent's Baker-Bowdoin system on the basis of the showing made with respect to compressor station operations. Even if it be true that there has been some increase in the rate of pay for labor, respondent submitted no evidence to show the extent to which labor costs enter into the cost of compressor station operations or total transmission expense for its Baker-Bowdoin system. Consequently, we are unable to find in the record any basis for the allowance of any amount on account of respondent's claim respecting increased costs in this regard.

[3] Respondent also contends that the cost of service upon its Baker-Bowdoin transmission system will be increased by an estimated expenditure of $75,000 in each of the years 1946

to 1950, inclusive, for what its operating officers characterize as deferred maintenance, and that as such, the expenditures will be chargeable to annual operating expenses. The evidence, however, shows that the work which respondent proposes and for which such estimated expenditures are to be made, constitutes the removal and replacement of major items of property on respondent's pipe-line system. The testimony of respondent's chief engineer clearly shows that the contemplated program is not one of maintenance, involving expense usually incurred annually and made up of cash outlay properly chargeable to operating expenses, but is a pipe-line rehabilitation program involving replacement of units of property. Such costs are capital replacements and not maintenance expense chargeable to operating expenses. Charges for like work in the past, as shown by the testimony of respondent's chief engineer, have been properly charged to investment as provided by the Commission's Uniform System of Accounts and we find that there is no warrant for the allowance which respondent claims as deferred maintenance. A similar claim for "deferred maintenance" was made by respondent at the original hearing and was disallowed by the Commission. (Opinion No. 132 [1946] 64 PUR(NS) 11.)

We further find no support in the record for respondent's claim of $150,246 for Federal income taxes applicable to the Baker-Bowdoin transmission system in determining cost of transportation. This amount represents an allocated portion of the total estimated tax on income from all the company's natural and artificial gas operations, as well as electric, merchandise, and nonutility operations. We have made no determination of the proper amount of return or the reasonableness of the rates respecting the various operations of the respondent other than for transportation operations on its Baker-Bowdoin gas transmission system, and we are concerned only with the proper income taxes properly allowable to the cost of such service.

Using as a fair and reasonable return the $391,567 determined herein for respondent's Baker-Bowdoin transmission system, giving effect to allowable tax deductions, and applying the 1946 income tax rates in the manner clearly shown by the record in this case, we find that $67,227 is the proper allowance for Federal income taxes chargeable in determining the cost of transportation service on respondent's Baker-Bowdoin system.

Similarly there is no basis or justification in the record for respondent's estimate that $11,000 for state income taxes should be included in the cost of transportation service with respect to its Baker-Bowdoin system. The amount of $5,311 estimated for such expense by the Commission's staff witness, based on the income tax payable in the states of North Dakota and Montana when earnings are limited to a six per cent return on respondent's rate base investment in those states, provides a fair and equitable measure of such tax allowance for the future, and we so find.

[4] Finally, respondent seeks to have included in transportation costs the sum of $81,770 annually for thirty-five years, for the purpose of amortizing a portion of the Baker-Bowdoin

transmission system which it claims will not be recovered through depreciation. The amount is not allowable for the reason that accrued depreciation already recorded by respondent on its books plus future annual depreciation allowances will be adequate to return all of respondent's cost of utility plant. The same claim for an "annuity for extinguishment of plant not recovered through depreciation" was made by respondent at the original hearing and disallowed by the Commission. (Opinion No. 132, *supra.*)

Giving effect to the reduced cost of transportation in 1946 and 1947 that will be occasioned by the reduction in respondent's rate base by reason of annual depreciation charges, it appears from the evidence that the common carrier transportation rate determined by the Commission in its order of March 22, 1946, *supra,* when applied to the volumes of natural gas which respondent estimates will be transported in those years, will produce estimated revenue in each of such years, equal to or greater than the estimated cost of service for such years, inclusive of a 6 per cent return on net investment in property devoted to such service. We find that the evidence fails to establish that respondent's transportation costs for its Baker-Bowdoin system in 1945 have been, or that such estimated costs in 1946 and 1947 will be, increased to an extent which justifies a greater common carrier transportation rate than that prescribed by the Commission's order of March 22, 1946, *supra.*

Changed Operating Conditions

The changed condition alleged in the application for rehearing is shown by the evidence to be a repressuring program involving the utilization of a natural gas underground storage reservoir in the Baker gas field adjacent to respondent's Cabin Creek compressor station. This station will not be operated during the summer months, when the program is carried on. Such program, however, will not prevent the transportation of natural gas for complainant or others in the area affected thereby even during the summer months. Further, as a matter of fact, our order of March 22, 1946, *supra,* contemplated that transportation service may be rendered by respondent either "by exchange or displacement." We are unable to find from the record any change in operating conditions, either now or in the immediate future, which warrants a modification of our order of March 22, 1946, *supra.*

An appropriate order will issue.

FEDERAL POWER COMMISSION

Re Pike County Light & Power Company

Docket No. G–270
February 11, 1947

APPLICATION *by gas company for certificate of public convenience and necessity; dismissed for lack of jurisdiction.*

Gas, § 2.1 — Status of company under Natural Gas Act.

A company owning and operating a local gas distribution system and also owning and operating that part of a pipe line extending to the middle of a river on the state boundary, at which point it accepts delivery of gas from another company, is not a natural gas company within the purview of the Natural Gas Act.

By the COMMISSION: Pike County Light & Power Company, a Pennsylvania corporation having its principal place of business at Milford, Pennsylvania, hereinafter referred to as "Applicant," filed an application on May 2, 1942, and an amendment thereto on November 5, 1943, for a certificate of public convenience and necessity pursuant to § 7(c) of the Natural Gas Act, 15 USCA § 717f(c), as amended, authorizing the continuation of the operations, subject to the Commission's jurisdiction, in which it has been bona fide engaged on February 7, 1942, and subsequent thereto.

It appears to the Commission that:

(a) Due notice of the application has been given, including publication in the Federal Register on May 29, 1942 (7 FR 4003–4011), and no protest has been filed thereto.

(b) Applicant owns and operates a local distribution system in the borough of Matamoras, Pennsylvania, which borders on the Delaware river. On the opposite side of the river, in the state of New York, is located the city of Port Jervis, which is served with natural gas by Rockland Light and Power Company. The distribution system of Rockland Light and Power Company and the distribution system of Applicant are connected by a 6-inch pipe line, approximately 750 feet in length, extending across a bridge over the Delaware river between Port Jervis and Matamoras. The portion of such pipe line located in New York is owned and operated by Rockland Light and Power Company, and the portion thereof located in Pennsylvania, extending from the middle of the bridge for a distance of approximately 375 feet to a point on the Pennsylvania side of the river in Matamoras, is owned and operated by Applicant. Natural gas produced in New York, West Virginia, Pennsylvania, and other states is carried by Rockland Light and Power Company in such pipe line from its distribution system to the New York-Pennsylvania state line in the middle of the bridge,

and there delivered to Applicant. Applicant carries such gas thence in the pipe line across the remainder of the bridge to its distribution system in Matamoras for sale to ultimate consumers. The pressure of the gas maintained in the pipe line across the bridge and in Applicant's distribution system in Matamoras is 0.2 pound per square inch.

The Commission finds that: Applicant is not a "natural-gas company" within the purview of the Natural Gas Act.

The Commission, therefore, *orders* that:

The application for a certificate of public convenience and necessity be and the same is hereby dismissed for want of jurisdiction.

SECURITIES AND EXCHANGE COMMISSION

Re The Laclede Gas Light Company et al.

File No. 54-39

Re Ogden Corporation et al.

File Nos. 54-69, 59-65
Release No. 7260
March 6, 1947

APPLICATION *for counsel fees in reorganization proceedings under Holding Company Act; denied.*

Corporations, § 24 — Reorganization — Counsel fees.

Applications of counsel for certain preferred stockholders for approval of fees and expenses in proceedings under § 11(e) of the Holding Company Act, 15 USCA § 79k(e), should be denied when counsel appeared primarily in the interests of their individual clients and their services did not materially contribute to the formulation of the plan of reorganization and were not beneficial in the administration of the estate.

APPEARANCES: Schutte & Hegeman by Adrian Hegeman, for the applicant; Robert W. Otto and Samuel H. Liberman, for The Laclede Gas Light Company; Doris N. Malit, Richard S. Ries, and Myron S. Isaacs, for the Public Utilities Division of the Commission.

By the COMMISSION: This proceeding concerns the petition of Schutte & Hegeman for approval of fees and ex-

penses aggregating $10,101.50 for services rendered as attorneys for certain preferred stockholders in connection with a plan for the reorganization of The Laclede Gas Light Company ("Laclede Gas") under § 11(e) of the Public Utility Holding Company Act of 1935, 15 USCA § 79k(e) ("the Act"). This reorganization was part of a comprehensive plan of Ogden Corporation ("Ogden"), a registered holding company, and certain of its subsidiaries, including Laclede Gas, and Laclede Power & Light Company ("Laclede Electric"), and Phoenix Light, Heat and Power Company ("Phoenix"), to effect compliance with § 11(b) of the Act, and to meet certain financial problems of the respective companies. Our order of May 27, 1944,[1] approving the plan of Laclede Gas as amended, reserved jurisdiction in regard to the fees and expenses incurred in connection with the plan. Thereafter, Ogden, Laclede Gas, Laclede Electric, and Schutte & Hegeman all filed petitions for approval of the payment of certain fees and expenses.

Public hearings were held upon appropriate notice and all applications were approved after certain amendments with the exception of the petition of Schutte & Hegeman, the applicants herein.[2] They filed a memorandum brief in support of their petition, to which Laclede Gas and the Public Utilities Division filed briefs in opposition. None of the parties has made a request for oral argument.

The background and details of the reorganization proceedings are set forth fully in our findings and opinion passing upon the plan.[3] We will repeat here only so much as is necessary to appreciate the part played in the formulation of that plan by Schutte & Hegeman.

In order to simplify the financial structure of Laclede Gas by reducing its funded indebtedness and converting its preferred and common stock into a single class of stock, and to eliminate the arrearages of its preferred stock dividends, a reorganization plan was filed under § 11(e) by Laclede Gas, Laclede Electric, Phoenix, and Ogden, in which it was proposed among other things to exchange 11 shares of new $4 par value common stock of Laclede Gas for each share of the old 5 per cent cumulative $100 par value preferred stock and to make an even exchange of one share of the new common for each share of the old $100 par value common. Ogden, in addition, was to receive 2,000,000 shares of new common stock for considerations amounting to approximately $9,094,300. As of December 31, 1943, Ogden owned 22.9 per cent of the 23,330 outstanding shares of preferred stock of Laclede Gas and 84.5 per cent of the 107,000 outstanding shares of common stock, all the other shares being held by the public. Both classes of the old stock of Laclede Gas had equal voting privileges and the preferred stock had a preference only as to the receipt of dividends. There were accumulated unpaid preferred dividends as of December 31, 1943, amounting to $1,185,942 or $50.83 per share, which were to be cancelled

[1] Re The Laclede Gas Light Co. (1944) Holding Company Act Release No. 5071, 56 PUR(NS) 321.

[2] Re The Laclede Gas Light Co. Holding Company Act Release No. 6954, Oct. 21, 1946.

[3] Re The Laclede Gas Light Co. (1944) Holding Company Act Release No. 5062, 56 PUR(NS) 321.

under the plan of reorganization.

After appropriate notice, public hearings on the plan were held beginning on May 18, 1943. At a subsequent hearing, approximately a month before Schutte & Hegeman made their initial appearance in the proceedings, the matter of fair treatment of the preferred under the plan was discussed in some detail. The president of Atlas Corporation, which at that time owned 76 per cent of the outstanding stock of Ogden, testified under cross-examination by Commission counsel that in his opinion the plan did not give full recognition to the priority position of the preferred stockholders and that application of a strict priority basis would require some increase in their participation. He further stated that "if this Commission feels that the preferred stock should receive a little more than is in the plan, Ogden Corporation will not have the slightest objection" and suggested that an increase of 3 shares, making a total of 14, could be made without changing the par value of the new stock or the participation of the old common stockholders.

At this point neither the preferred nor common stockholders of Laclede Gas were represented at the hearings except in so far as the interest of Ogden coincided with their own interests.

On July 26, 1943, Adrian Hegeman, one of the applicants herein, was consulted by C. Edmund Fay of Clinton, Gilbert & Co., stockbrokers, regarding the preferred stock of Laclede Gas, which several customers had recently called to his attention. At Fay's request Hegeman made a study of the plan and concluded that the receipt by the preferred of only 11 shares was unfair and inequitable. His advice was that the preferred stockholders should join whatever organized opposition there was to the plan.

Since no preferred stockholders' committee had been organized, a group of preferred stockholders owning 740 shares who were customers of Clinton, Gilbert & Co., decided to retain Schutte & Hegeman to appear and represent them.[4] By this time the hearings were nearing completion, and Schutte & Hegeman thought it too late to make a formal appearance. Accordingly, Harry H. Schutte appeared under what was then Rule XVII(e) of our Rules of Practice at the next hearing on September 27, 1943, for the limited purpose of making an oral statement and filing a brief memorandum setting forth the objections of his clients. The principal contention he advanced was that the preferred stockholders should receive at least 25 shares of new $4 par common stock in exchange for their $100 par preferred stock with its accumulated unpaid dividends. At a later hearing Hegeman also made a statement in which he asked that special consideration be given to the interests of the preferred shareholders, who were not represented as an organized group. This is the

[4] A letter dated October 1, 1943, was written to Schutte & Hegeman by C. Edmund Fay, copies of which were signed by the clients represented, to "confirm our understanding that your disbursements will be paid by these stockholders in proportion to their holdings and that your compensation will depend on and be measured by the success attained." On June 15, 1944, after the applicants' participation in the proceedings had been concluded a fee of $2 per share was agreed upon and paid by all clients except one who held between 100 and 200 shares. It was orally agreed that this sum of approximately $1,200 would be refunded in the event compensation were received from the estate.

whole extent to which Schutte & Hegeman participated in these proceedings.

The findings and opinion of the Commission on the plan held the plan unfair in its treatment of the preferred stockholders and found that an allocation of 14 shares of new common for each share of preferred would be fair and equitable under the standards of the act.[5] The plan was amended to that effect and was approved by our order of May 27, 1944.[6] All of the shareholders represented by the applicants then sold their holdings upon the advice of the applicants. They accordingly took no part in the subsequent court enforcement proceedings on the plan.[7]

In passing on allowances for fees and expenses we are guided by the general principles applied by the Federal courts in cases which have arisen under § 77B and Chap X of the Bankruptcy Act, 11 USCA § 207.[8] It has there been generally stated that compensation may be paid out of the estate only for such services as have contributed to the formulation of the plan finally adopted or to the defeat of a plan found to be unsatisfactory or which were beneficial in the administration of the estate.[9] We have held that in § 11 proceedings "Where counsel have acted for committees or other class representatives . . . , reasonable compensation out of the estate may be warranted in view of their service to a class of investors in the proceedings on the plan. Where, however, the person seeking a fee has acted for an individual security holder it is the latter who should bear the cost, and not the estate, except to the extent that the claimant is shown to have materially contributed to the development of the plan, the progress of the proceedings or the welfare of the estate." [10]

This petition of the applicants for fees of $10,000 and expenses of $101.50, apart from any question of the reasonableness of the requests, therefore presents two problems: (1) whether the applicants were representing the interests of all preferred stockholders or merely their individual clients, and (2) the extent to which the applicants have contributed toward the formulation of the plan of reorganization that was adopted, or otherwise benefited the estate.

It appears from the record that the applicants were appearing primarily in the interests of their individual clients. Their primary purpose was to endeavor to secure an increased participation in the plan and to preserve their clients' right to appeal to court in the event we approved a plan which they deemed contrary to their interest. When we issued our order by which the participation of the preferred stock was increased to 14 shares of new

[5] Re The Laclede Gas Light Co. *supra*, note 3.

[6] Re The Laclede Gas Light Co. *supra*, note 1.

[7] The plan was approved and enforced by order of the District Court in Re Laclede Gas Light Co. (1944) 58 PUR(NS) 414, 57 F Supp 997; aff'd *sub nom.* Massachusetts Mut. Life Ins. Co. v. Securities and Exchange Commission (1945) 61 PUR(NS) 308, 151 F2d 424; cert. den. (1946) 327 US 795, 90 L ed 1021, 66 S Ct 817.

[8] Re The United Teleph. & Electric Co. (1940) 7 SEC 809; Re Columbia Gas & E. Corp. (1944) Holding Company Act Release No. 5460, 57 PUR(NS) 475.

[9] In Re Consolidated Motor Parts (1936) 85 F2d 579; In Re Porto Rican American Tobacco Co. (1941) 117 F2d 599. See § 243 of the Bankruptcy Act of 1938, 11 USCA § 643.

[10] Re Columbia Gas & E. Corp. *supra*, 57 PUR(NS) at p. 484.

common stock, the applicants advised their clients to sell their holdings and did not participate in the further enforcement of the plan.

We are also unable to find that Schutte & Hegeman have made any substantial contribution to the formulation of the plan or conferred even any indirect benefits upon the whole group of preferred stockholders by their appearance. The increased participation of the preferred stock in the new common stock from 11 to 14 shares was discussed at a hearing prior to the appearance of Schutte & Hegeman, and Ogden at that time indicated that it would acquiesce in such an amendment to the plan.[11] The position of the applicants, on the other hand, when they made their appearance was that the preferred should receive 25 shares. The Commission found from the evidence in the record that an allocation of 11 shares to the preferred was unfair and concluded that a participation of 14 shares would be fair. Neither that finding, Ogden's amendment of the plan to provide for 14 shares as it had previously suggested, nor the Commission's approval thereof was in any way influenced or aided by the applicants' appearance.

The applicants have also asserted that they are entitled to compensation because their appearance in this proceeding preserved to the preferred stockholders a right to appeal from any order which we issued. There is some question whether it is necessary for an interested party to appear in proceedings before this Commission in order to raise objections to a plan of reorganization before a district court or circuit court of appeals.[12] It is not necessary, however, for the purposes of this proceeding to express any views on that question. The applicants took no part in the court enforcement proceedings since their clients had already sold their stock, and the mere possibility that the right of preferred stockholders to obtain a court review of our order might have been predicated on the appearance of the applicants before this Commission is too conjectural to be the basis for compensating them out of the estate.

Because of our determination that the applicants have made no contribution to the formulation of the plan or otherwise aided in the administration of the estate, we are not called upon to consider the reasonableness of the amount of their request.

Our conclusion, therefore, is that Schutte & Hegeman are not entitled to receive any fee or reimbursement for expenses from the estate and their application must be denied.

An appropriate order will issue.

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[11] See our opinion in Re The Laclede Gas Light Co. *supra*, 56 PUR(NS) at p. 340:

"In recognition of the possibility that this Commission might consider that the proposed treatment of the preferred stock is not sufficiently compensatory and to avoid any substantial reduction in the participation to be accorded the minority public common stockholders of Laclede Gas, Ogden has stated that it would not object to a requirement that the plan be amended to increase the number of shares given to each share of preferred stock to 14. . . ."

[12] Cf. In Securities and Exchange Commission v. United Light & P. Co. (1944) 53 PUR(NS) 129, 142 F2d 411; Phillips v. Securities and Exchange Commission (1946) 66 PUR(NS) 273, 156 F2d 606.

New York Marches On

New York, America's biggest city industrially, commercially, and in most every way, is still growing.

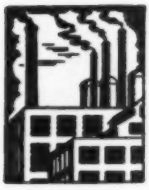
Construction has been started or plans filed for great housing developments . . . new hospital and medical centers . . . civic centers . . . beautiful stores and shopping areas . . . and a vast sports arena. Every week the newspapers tell of added projects.

Consolidated Edison, too, is working on an expansion program to supply *more* electricity . . . *more* gas . . . and *more* steam for this ever-growing city.

This Company plans to spend $250,000,000 within five years to continue giving New York the best utility service at the lowest possible cost.

CONSOLIDATED EDISON
COMPANY OF NEW YORK, INC.

SERVICE



Industrial Progress

A digest of information on new construction by privately managed utilities; similar information relating to government owned utilities; news concerning products, supplies and services offered by manufacturers; also notices of changes in personnel.

Arkansas Power & Light Plans Large Expansion

ARKANSAS POWER AND LIGHT COMPANY is planning to spend $23,142,000 in the next two years on an expansion program.

A breakdown of the estimated costs for the projects shows the following totals:

Power production facilities—1947, $1,950,000; 1948, $3,053,974. New transmission facilities—1947, $2,510,000; 1948, $2,006,000. Distribution facilities—1947, $7,309,841; 1948, $4,899,233. General items—1947, $156,900; 1948, $469,900.

Major item in the construction program for new power production facilities is a $1,817,238 expenditure in 1947 for completion of the 30,000 kilowatt Cecil Lynch power plant near Little Rock. Other plants to be improved are at Helena, Stamps, and Carpenter power station near Hot Springs.

Magazine for Truck Industry Launched by Dodge

PUBLICATION of the first issue of the "Job-Rater"—a new magazine for those who own, drive, maintain, and direct the operation of trucks—was announced recently by L. F. Van Nortwick, director of truck sales of the Dodge Division, Chrysler Corporation.

Mr. Van Nortwick explained in a message in the magazine that the "Job-Rater" will provide factual and diversified information for truck owners and operators about trucks and their application and will deal with cost-reducing truck operations, economical truck maintenance, and efficient truck service. The magazine is being mailed free to a large list.

Pacific Power & Lt. Plans $3,874,000 Program

PACIFIC POWER & LIGHT COMPANY is planning the largest construction program in its history—$3,874,000—according to an announcement by George T. Bragg, vice president and general manager.

Major outlay of the program is for additions and improvements in the company's distribution plant, with more than $2,500,000 set aside for this purpose. New lines to serve all classes of the company's customers—homes, farms, businesses and industries—will be built at an approximate cost of $1,263,000.

New substations at Walla Walla, Pendleton, and Heppner, which eventually will cost a total of $602,000, are among the other large items in the distribution section. A long list of existing substations are scheduled for added capacity at a cost of over $400,000.

EEI Manual Covers Use and Care of Linemen's Equipment

SAFETY practices for electric utility linemen, with emphasis on the correct use and care of their pole climbing equipment, are presented in a 30-page manual published by the Accident Prevention Committee of the Edison Electric Institute. Entitled "Use and Care of Pole Climbing Equipment," the manual covers the recommended methods for handling and maintenance of the body belt, safety strap, climbers, leg strap, and other aids employed many times each day by electric linemen. Photographs and text describe the purposes of each item of equipment, and list many practical tips on proper adjustment, use on the job, and the care required to keep it in safe condition.

Field-tested methods of climbing and descending poles with less risk of accidents; the correct use of the safety strap, and recommended practice in belting off, are other parts of the lineman's daily tasks described in the manual.

"Use and Care of Pole Climbing Equipment" is available from the Edison Electric Institute, 420 Lexington avenue, New York 17, New York, at 25 cents per copy.

Frigidaire Introduces New Line Of Home Laundry Equipment

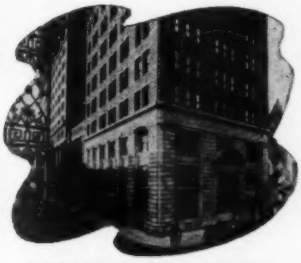
FRIGIDAIRE DIVISION of General Motors has introduced a complete new line of electric home laundry equipment to its distributors, featuring a fully automatic clothes washer, an ironer, and automatic dryer.

According to Mr. P. M. Bratten, general sales manager, Dayton, the new washer "features an entirely new washing principle known as 'Live-Water' action." Production of the three new products is already well underway and distribution to the public will begin about July 1st through a limited number of dealers. Distribution of the new equipment will be expanded as production gains momentum.

A-C Promotion

J. I. ONARHEIM has joined the staff of the central station and marine sales department of the Allis-Chalmers Mfg. Company, according to an announcement by C. C. Jordan, manager of the department. In his new post, Mr. Onarheim, who has had more than 20 years

NEW ORLEANS-- Meeting Place of the *Americas*



INTERNATIONAL HOUSE

NEW ORLEANS proudly calls attention to its unique facilities dedicated to the advancement of trade and understanding between this city, the Mississippi Valley, Latin America and the World:—International House, International Trade Mart, the new Foreign Trade Zone, and the great Port of New Orleans.

Here in New Orleans, International House provides a friendly meeting place for business men from all over the world. It has private offices for use by visitors, bi-lingular stenographers and interpreters to assist them in conducting business, and a research staff which maintains data on foreign markets and information on sources of supply. For the foreign buyer, International House is an office away from home where every facility is placed at his disposal to speed transactions and develop closer mutual understanding. For American business men, International House provides experienced counsel on conducting foreign commerce as well as a meeting place with foreign business men in an atmosphere of friendliness and understanding. Here, is an outstanding example of "International Realism at Work"—. . . furthering free enterprise, world trade, prosperity and world peace through the development of practical business relationships.

New Orleans Public Service Inc.

SERVING NEW ORLEANS WITH ELECTRICITY, NATURAL GAS AND TRANSPORTATION

of design and sales engineering experience in the company's electrical department, will assist both the product departments and the district offices in the promotion and coördination of sales activities with utilities and municipalities.

New Burndy Bulletin On Cable Protection

LOW-COST, positive cable protection is the subject of the new technical Bulletin 46Z3, published by Burndy Engineering Company, Inc., 107 Bruckner boulevard, New York city 54.

The bulletin has been offered in conjunction with Burndy's development of high-capacity limiters for industrial network systems up to 600 volts. It is stated these limiters provide short-circuit protection only, and should be located in sections of the circuit where the system may be shorted, or they can be used as back-up protection for circuit breakers, distribution panels, load panels, and for any other apparatus which might fail to operate under short-circuit conditions. Many graphs and oscillograms are given, showing the performance characteristics of limiters.

A copy of Bulletin 46Z3 may be had on request to Burndy.

Proposes to Build Network of Main Lines

UNITED GAS CORPORATION of Shreveport has applied for authority to build a network of main lines to transmit natural gas in southeastern states.

The company plans to spend more than $57,000,000 to build transmission lines originating in Mississippi and extending through southern Alabama, southern Florida, and southern Georgia into southeastern South Carolina.

Color Talking Picture Presents New Accounting Method

A NEW, yet basically simple system of accounts receivable control, is presented in the new twenty minute, full color, sound motion picture "Saving With SUIAP" released recently by the Systems Division of Remington Rand Inc. SUIAP denotes the Simplified Unit Invoice Accounting Plan that has been designed to speed and facilitate receivable procedures.

"Saving With SUIAP" traces the development of accounts receivable from the "spindle" credit system of an old-fashioned country store through the stages of bound books and loose leaf ledgers to systems of machine posting and the new ledgerless accounts receivable plan. It shows how this work saving plan, through the elimination of all posting, provides remarkable speed and accuracy and how positive control over credit and collection activities is established through the use of colored Graph-A-Matic signals.

The advantages of a unit operation, where one operator handles all credit, accounting and collection operations for a group of accounts, are portrayed in action and dialog. How records are provided with certified fire protection at the point-of-use and other unique features of the system are also presented.

The experience of many prominent users of the SUIAP system is described to highlight the operating advantages of this system in practical day-to-day operation.

Prints of the film are now available in Remington Rand offices in all sections of the country—and showings to interested groups or to officials of individual companies will be arranged upon request by Systems Division representatives of any local Remington Rand office.

Galvin Mfg. Corp. Name Changed to "Motorola Inc."

THE GALVIN MANUFACTURING CORPORATION, makers of Motorola home and car radios and Motorola car heaters, was officially changed to Motorola Inc., effective May 15th.

At the present time this company makes a complete line of radios for home and car, an aircraft radio line, automatic gasoline car heaters, television receivers, and 2-way radio-telephone equipment.

Southern California Edison Plans Large Program

HEAVY demands for electric power have necessitated the undertaking of one of the largest construction programs in the history of Southern California Edison Company, according to W. C. Mullendore, president. An estimated $75,000,000 will be required in the next three years to finance the expansion program.

Southwestern Bell Telephone Has $500,000,000 Budget

THE SOUTHWESTERN BELL TELEPHONE COMPANY has a construction budget for the next few years of approximately $500,000,000, according to a recent announcement.

Offers Improved Insulator for Street Lighting Luminaires

A NEW Form 45H7 wet-process porcelain insulator for series street lighting luminaires featuring a strengthened lip, integral porcelain tie-lugs and an accurately-positioned light center has been announced by the Lighting Division of the General Electric Company.

The insulator is recommended for use with high-voltage aerial wiring. With the Form 72 for duplex cable, G-E's line of high-quality wet-process porcelain insulators is now reduced to two standard designs which will meet all requirements and are suitable for all types of mounting, selection of reflectors or reflector-glassware combinations. The insulator is interchangeable with older designs so that it is ideal for standardization programs.

Now! CRESCENT Aluminum Building Wire

AN EXCELLENT ALTERNATE FOR COPPER!

COSTS LESS! PROMPT SHIPMENT!

Aluminum feeders, particularly in the larger sizes show a substantial saving in cost per ampere of useful circuit capacity in most cases as compared with copper. CRESCENT Aluminum Building Wire is made with ENDURITE heat resistant insulation in sizes number 4 AWG to 1,000,000 C. M. as Type RH - 75°C - 600 Volts. Send for Bulletin 471 for complete information.

CRESCENT WIRE and CABLE

CRESCENT INSULATED WIRE & CABLE CO.
TRENTON, N. J.

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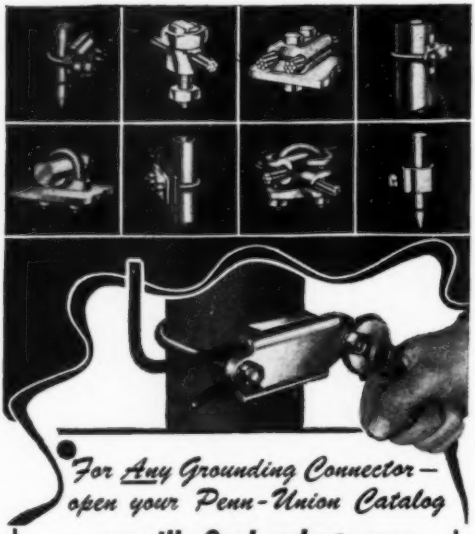


For Any Grounding Connector—open your Penn-Union Catalog

---you'll find what you need in the *complete* line

The wide variety offered in the Penn-Union catalog includes: Grounding connectors, clamps, studs for all combinations of pipe, rod, flat bar, braid, tubing. Every one a thoroughly tested, dependable unit of protection for personnel and equipment . . . of ample capacity, high mechanical strength, and resistant to corrosion.

Penn-Union also makes the *complete* line of Service Connectors, Power Connectors, Tees and Cable Taps, Straight and Parallel Connectors, Terminal Lugs, etc. Penn-Union fittings are the first choice of leading utilities and electrical manufacturers—*because of their known dependability.*

PENN-UNION ELECTRIC CORP.
ERIE, PA. *Sold by Leading Wholesalers*

PENN-UNION
CONDUCTOR FITTINGS

Two "petticoats" instead of one on the insulator lengthen the external creepage path and double the dry path under rain and sleet conditions. Either internal or external wiring may be used. Terminal extensions, providing external binding posts, can be mounted in the lead openings when desired.

Bendix Appointment

J. Warren Russell has been named by W. F. Linville, general sales manager, to contact electric and gas utilities in the eastern region of the United States for Bendix Home Appliances, Inc. He joined the manufacturer of the Bendix automatic washer 15 months ago as a special representative. He will continue to headquarter in Garfield, New Jersey.

Plans Construction Program

Construction of new and expanded water facilities in 15 Arkansas cities is being planned by the General Waterworks Corporation. The program is expected to cost $894,580.

Construction Loans Announced

Construction loans—chiefly for distribution lines, system improvements or new or additional generating capacity—recently were made to the following enterprises by the Rural Electrification Administration:

Union Rural Electric Association, Inc., Brighton, Colo., $146,000.

Ark Valley Electric Coöperative Association, Inc., Hutchinson, Kans., $407,000.

Sumner-Cowley Electric Coöperative Association, Inc., Wellington, Kans., $480,000.

Jackson Purchase Rural Electric Coöperative Corporation, Paducah, Ky., $330,000.

Green River Rural Electric Coöperative, Corporation, Owensboro, Ky., $400,000.

Southwest Louisiana Electric Membership Corporation, Lafayette, La., $350,000.

Franklin County Electric Membership Corporation, Franklin, Neb., $251,600.

Jones-Onslow Electric Membership Corporation, Jacksonville, N. C., $296,000.

Davidson Electric Membership Corporation, Lexington, N. C., $60,000.

James Valley Electric Coöperative, Inc., LaMoure, N. D., $300,000.

North Arkansas Electric Coöperative, Inc., Salem, Ark., $377,000.

Jo-Carroll Electric Coöperative, Inc., Elizabeth, Ill., $162,000.

Minnesota Valley Electric Coöperative, Jordan, Minn., $110,000.

North Central Missouri Electric Coöperative, Inc., Milan, Mo., $105,000.

Howell-Oregon Electric Coöperative, Inc., West Plains, Mo., $785,000.

Sheridan County Electric Coöperative, Inc., Westby, Mont., $87,000.

McCone County Electric Coöperative, Inc., Circle, Mont., $225,000.

Verdigris Valley Electric Coöperative, Inc., Collinsville, Okla., $211,000.

Now Under Construction

in Virginia

ANOTHER major addition to electric power facilities of the Virginia Electric and Power Company . . . serving Virginia and North Carolina . . . is the 60,000 Kw. Possum Point power station located on the Potomac River and Quantico Creek, near Quantico, Virginia, now under construction at a cost of $10,000,000. Also, a new boiler installation is being made in the Reeves Avenue power station at Norfolk, Virginia, at a cost of over $3,000,000.

While these improvements will add 80,000 Kw. capacity to the Vepco System, which increases the present capacity by about 15%, still further additions to plant are being planned at this time for the immediate future.

During the current year Vepco is adding about 28,000 new customers to its service and to reach them, rural and short-line extensions also are being constructed to the extent of about $5,200,000.

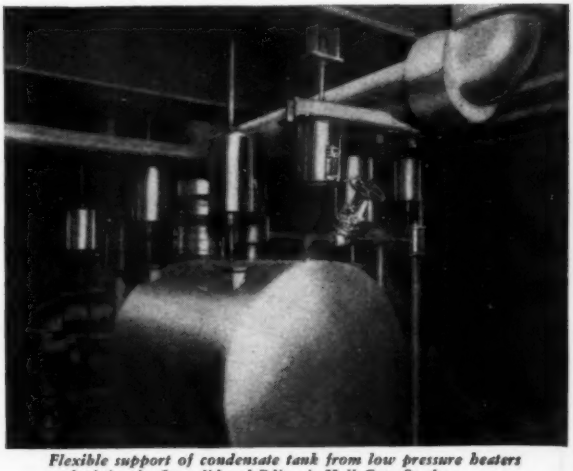
A total of about $14,750,000 is being spent this year on construction work on the Vepco System . . . the beginning of a long-range program to expand electric power and service in the recently enlarged territory now served by this company.

VIRGINIA ELECTRIC

AND

POWER COMPANY

FLEXIBLE SUPPORT OF PIPING made easy for you



Flexible support of condensate tank from low pressure heaters and piping in Consolidated Edison's Hell Gate Station.

with GRINNELL PRE-ENGINEERED SPRING HANGERS

FLEXIBLE support of piping subject to thermal movements is now a simple matter for you—just select a stock Grinnell Pre-Engineered Spring Hanger that exactly meets the load requirements.

After computing the load it is easy to select the proper size of hanger from a simple capacity table. The 14 sizes include a load range from 84 lbs. to 4700 lbs.

Look at These Features—

- The maximum variation in supporting force per ½" of deflection is 10½% of rated capacity—in all sizes.
- Guides prevent contact of coils with casing wall or hanger rod and assure continuous alignment and concentric loading of spring.
- Compact—minimum headroom made possible by precompression*.
- Precompression* assures operation of spring within its proper working range where variation in supporting force is at a minimum.
- All-steel welded construction meets pressure piping code.
- 14 sizes available from stock—load range from 84 lbs. to 4700 lbs.
- Easy selection of proper sizes from simple capacity table.
- Installation is simplified by integral load scale and travel indicators.
- Unique swivel coupling provides adjustment and eliminates turnbuckle.

**Precompression is a patented feature*

Write for descriptive folder Pre-Engineered Spring Hangers Fig. 268.

GRINNELL COMPANY, INC.
Executive Offices: Providence 1, R. I.

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Charlotte 1, N. C.
Chicago 1, Ill.
Cleveland 14, O.
Houston 1, Tex.
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New York 17, N. Y.
Oakland 7, Cal.
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St. Louis 10, Mo
St. Paul, Minn.
Sacramento 14, Cal.
San Francisco 7, Cal.
Seattle 1, Wash.

GRINNELL
WHEREVER PIPING IS INVOLVED

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Eastern Maine

. . . A GOOD PLACE TO LIVE

We are proud of the neighborliness and good labor relations in Eastern Maine. And if you are planning to locate in a section that is rich in natural resources, unlimited recreational facilities, favorable taxes and low-cost electric service, we suggest Eastern Maine . . . a good place to live!

BANGOR HYDRO-ELECTRIC CO.

MAIN OFFICES: 33 STATE STREET, BANGOR, MAINE

Free Enterprise

MUST STICK TO THE GUNS OF FREE ENTERPRISE

DOWN OUR WAY, we are competing with governmental tax-free power. It has the advantage of 25% on us before a wheel is turned. What we sell for a dollar, they can sell for 75 cents simply because the tax laws made for us do not apply to them. Therefore, they can and do sell cheaper whenever they can find a customer . . . and they are working hard to find the customers, chiefly in the industrial and municipal fields.

Recently, two large industries moved branch plants to our State. Industry "A" began many years ago on a small scale and because of the American system of Free Enterprise, grew to one of America's largest concerns. Down here it took its power requirements from the *governmental tax-free plant*. Proponents of tax-free power shouted lustily, "They came solely because the power was cheap." These shoutings were bandied to the State's four borders and many communities, all new industry minded, began clamoring for government cheap power so that industries also would flock to them. Government power propaganda has been prolific down through the years.

But along came industry "B", another national business institution, and it stuck to the guns of the principles which made it great . . . the principles of American Free Enterprise. It will buy its power from a business managed electric company, even though tax-free power worked tirelessly to get the account. Now, the people aren't so sure that government cheap power alone will get the job done.

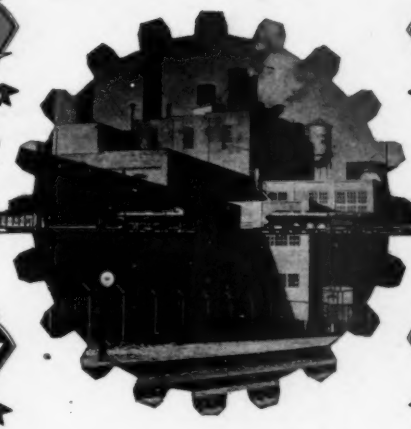
We sincerely hope this message is significant, that it carries the thought that only when institutions of Free Enterprise stick by their own guns . . . then only will public opinion see no need of building more and more expensive, highly subsidized, tax-free governmental power projects, which primarily are not power projects at all but are the foundation for the building of a political philosophy whose walls would enshroud and stifle *all* institutions of Free Enterprise.

OKLAHOMA GAS AND ELECTRIC COMPANY

COURTEOUS, PERSONAL ATTENTION TO EVERY CUSTOMER

George A. Davis, President

Consol Coals Serve Utilities



CONSOL CHAMPION

Pittsburgh Seam
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CONSOL MOUNTAINEER

Pittsburgh Seam
Fairmont Field

CONSOL HANNA OHIO COALS

Pittsburgh Seam
Eastern Ohio

CONSOL TRIPLE PURPOSE COAL DOMESTIC INDUSTRIAL BY PRODUCT RENTON

Thick Freeport Seam
Western Penna.

Consol Bituminous Coals meet every need of the public utility industry. They've been widely acclaimed for years for their uniform high quality which results in unexcelled performance and economy.

CONSOL

CONSOLIDATION COAL COMPANY

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BLAW-KNOX TRANSMISSION TOWERS
That's a subject which might interest the line inspector, but it has no effect on Blaw-Knox Transmission Towers. They are designed and built to take whatever nature may hand out in the way of winds, ice, heat, cold and rain . . . If your Company is extending its lines we would be pleased to quote on your engineers' specifications.
BLAW-KNOX DIVISION
of Blaw-Knox Company
2013 FARMERS BANK BUILDING
PITTSBURGH, PA.
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Birmingham • Washington

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IDAHO Power Company is moving ahead with a territory that has a progressive program . . . and we take pride in being an integral part of that program.

We have assumed the responsibility of providing electric service to the entire area of the Snake River Valley embraced by our lines, to the end that no need for electricity shall go unfilled. Our 1946 accomplishments continued to fulfill that obligation.

6,880 MORE CUSTOMERS SERVED

The number of Idaho Power Company customers made a greater-than-average increase in 1946, reaching a new total of 88,551.

To further and improve service to old and new customers, substantial additions were made in generating facilities, distribution and transmission systems.

$5,965,400 ADDED IN PLANT FACILITIES

GREATER USE OF SERVICE

All classes of customers increased their average use of electricity—domestic customers to a new high of 2,970 KWH, which is more than twice the national average.

As the average use went up, so did the average cost per KWH go down. Over a period of ten years the cost has decreased until now it is little more than half the national average cost.

AVERAGE COST OF SERVICE REDUCED

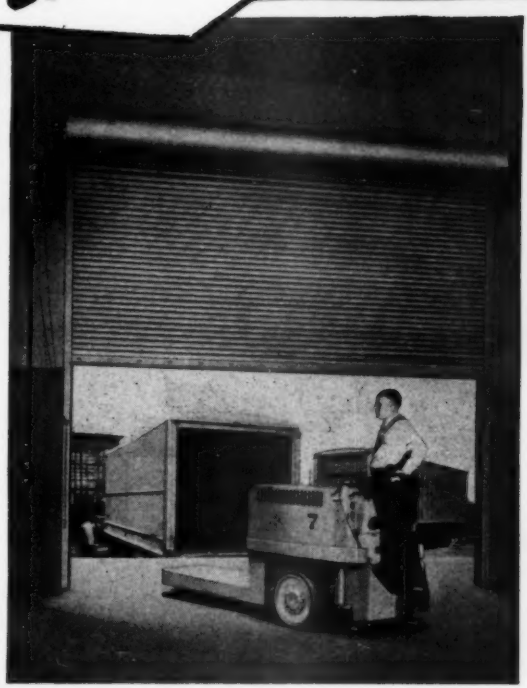
NEARLY 100% FARM ELECTRIFICATION

Few parts of the nation can boast of farm electrification to compare with the accomplishment of Idaho Power Company. Intensive development has resulted in nearly 100% coverage of the territory served. And these farm customers pay the same low rates for electricity as city customers.

IDAHO POWER

A CITIZEN WHEREVER IT SERVES

INDUSTRY'S *First Choice* *for* DOOR EFFICIENCY



KINNEAR STEEL ROLLING DOORS

Rugged all-steel construction.

Coiling upward action that completely clears door opening.

Effective counterbalance that assures smooth, easy action.

Flexible interlocking steel-slat curtain.

Complete usability of all floor, wall and ceiling space around doorways.

Motor operation, with remote control if it is desired.

Doors that are individually engineered to each job.

Rising vertically into a compact coil above the lintel, KINNEAR Rolling Doors save floor, wall and ceiling space. The *coiling upward action* clears the doorway from *jamb* to *jamb*, from floor to lintel. KINNEAR Rolling Doors are built in any size for old or new construction—*Write for details!*

THE KINNEAR MANUFACTURING COMPANY

Factories:—2060-80 Fields Ave., Columbus 16, Ohio;
1742 Yosemite Ave., San Francisco 24, Calif.
Offices and Agents in Principal Cities

SAVING WAYS in DOORWAYS

KINNEAR ROLLING DOORS

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CLEVELANDS

**PROVED ON THOUSANDS OF TRENCHING JOBS...
LONG AND SHORT...
TOUGH AND NORMAL**

PAY OFF EVERY TIME—BECAUSE OF THEIR MANY EXCLUSIVE PIONEERED FEATURES THAT ASSURE

• SPEED • MOBILITY • FLEXIBILITY AND DEPENDABILITY

Some of the many special pioneered features that have contributed to unsurpassed performance records in all sorts of soil and over all kinds of terrain are:—compact full crawler mounted wheel type design—elimination of all excess weight—transmission controlled speed changes and speed combinations—equalized drive to the digging wheel through enclosed differential—ease of operation through simplified, easy lever control and full operator vision—unit type construction minimizing repair time—trailer mobility.

THE CLEVELAND TRENCHER CO.
20100 ST. CLAIR AVENUE • CLEVELAND 17, OHIO

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Announcing

A FREE ADVISORY SERVICE FOR BUSINESS EXECUTIVES

THE rapid increase of light and precision industries on Long Island, both during and since the war, has led many far-seeing business executives to give the Nassau County area prime consideration as a place for starting or relocating their plant operations.

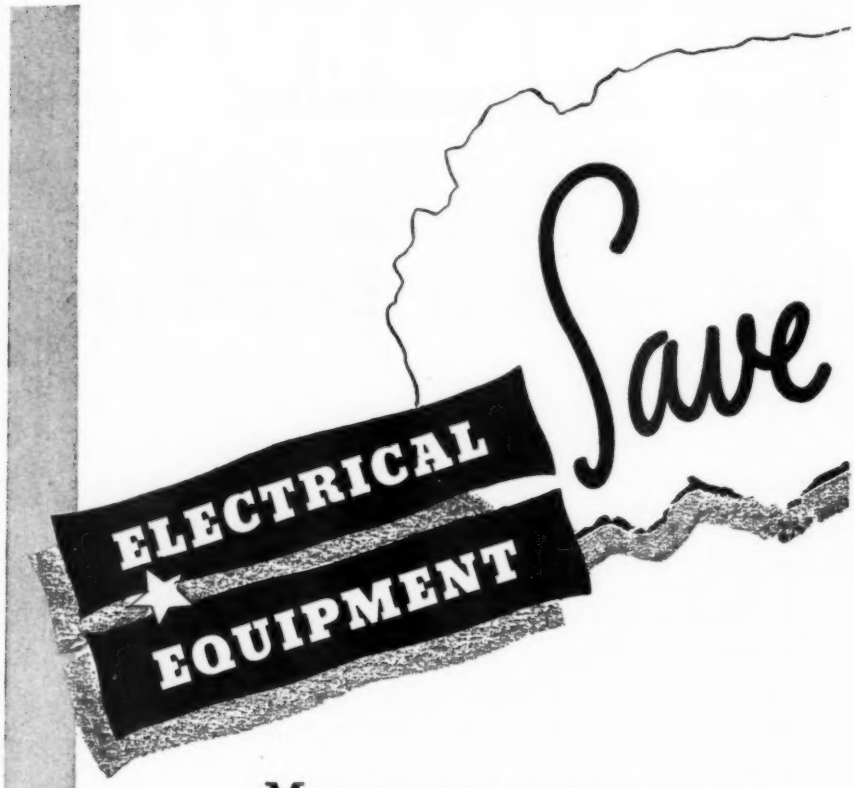
To assist management in handling such problems our Business Development and Research Departments will be glad to furnish expert guidance not only in the matter of plant location but also in the more technical problems of production and marketing.

Just write our Business Development Department and present your problem. They will be glad to answer your specific inquiries and supply complete information on what Long Island has to offer your business. There is no charge for this service nor is there any obligation on your part.

Address: **Business Development Manager**

Long Island Lighting Company

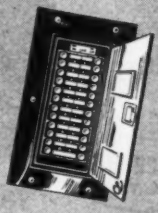
250 Old Country Road, Mineola, N. Y.



MILLIONS of dollars' worth of top-quality electrical equipment are now being offered by your Government at a fraction of their cost. Most materials are *unused* and afford a real money-saving opportunity for alert users, commercial buyers and exporters. Inventories of various types of equipment are held by all War Assets Administration Regional Offices. Some items are now being sold on a fixed price basis while others will be offered on competitive sealed bid sales. Visit your Customer Service Center or write the Regional Office holding the inventories to place your name on the mailing list for this type equipment.

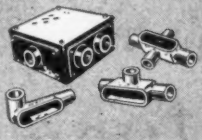
EXPORTERS! Your business is solicited. Much material which is surplus in the United States is urgently needed or is readily salable in other countries. Watch for our offerings; many of them may be of interest to your clients.

On Surplus



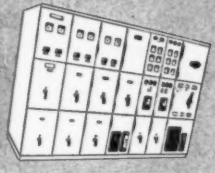
LIGHTING PANEL BOARDS—DISTRIBUTION PANEL BOARDS. There are wall and column types—both large and small capacity. Some have interlocked doors for added safety. In many cases, their construction permits alteration without disturbing wiring connections. This equipment will be offered on sealed bid basis. Largest inventories are held by: Boston, New York, Cincinnati, San Francisco, Seattle, Birmingham, Spokane, Los Angeles and Portland. Other regions have smaller stocks.

* * *



FLOOR BOXES AND COVERS—SCREWED CONDUIT FITTINGS—JUNCTION, SWITCH AND OUTLET BOXES AND BOX COVERS. Some standard, some explosion-proof, *all* of these units are of high quality and proved dependability. There are many types and sizes available to meet your needs. Some items are being sold on a fixed price basis, others on competitive sealed bid. Large inventories are held by the following Regional Offices: Boston, Chicago, Little Rock, Los Angeles, New York, San Francisco, Seattle and Spokane. Other regions have smaller stocks.

* * *



CIRCUIT BREAKERS—OIL CIRCUIT BREAKERS—AIRBREAK SWITCHES—SWITCHBOARDS—ASSORTED ELECTRICAL SWITCHGEAR. Both oil and air types of circuit breakers are offered in this great sale. Many types and sizes of panels and electrical switchgear are available and *all* are of high quality. This equipment will be offered on both Fixed Price and Sealed Bid Sales. Regions holding largest inventories: New York, Philadelphia, Denver, Chicago, Richmond, Atlanta and Detroit. Other regions have smaller quantities.

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WAR ASSETS ADMINISTRATION

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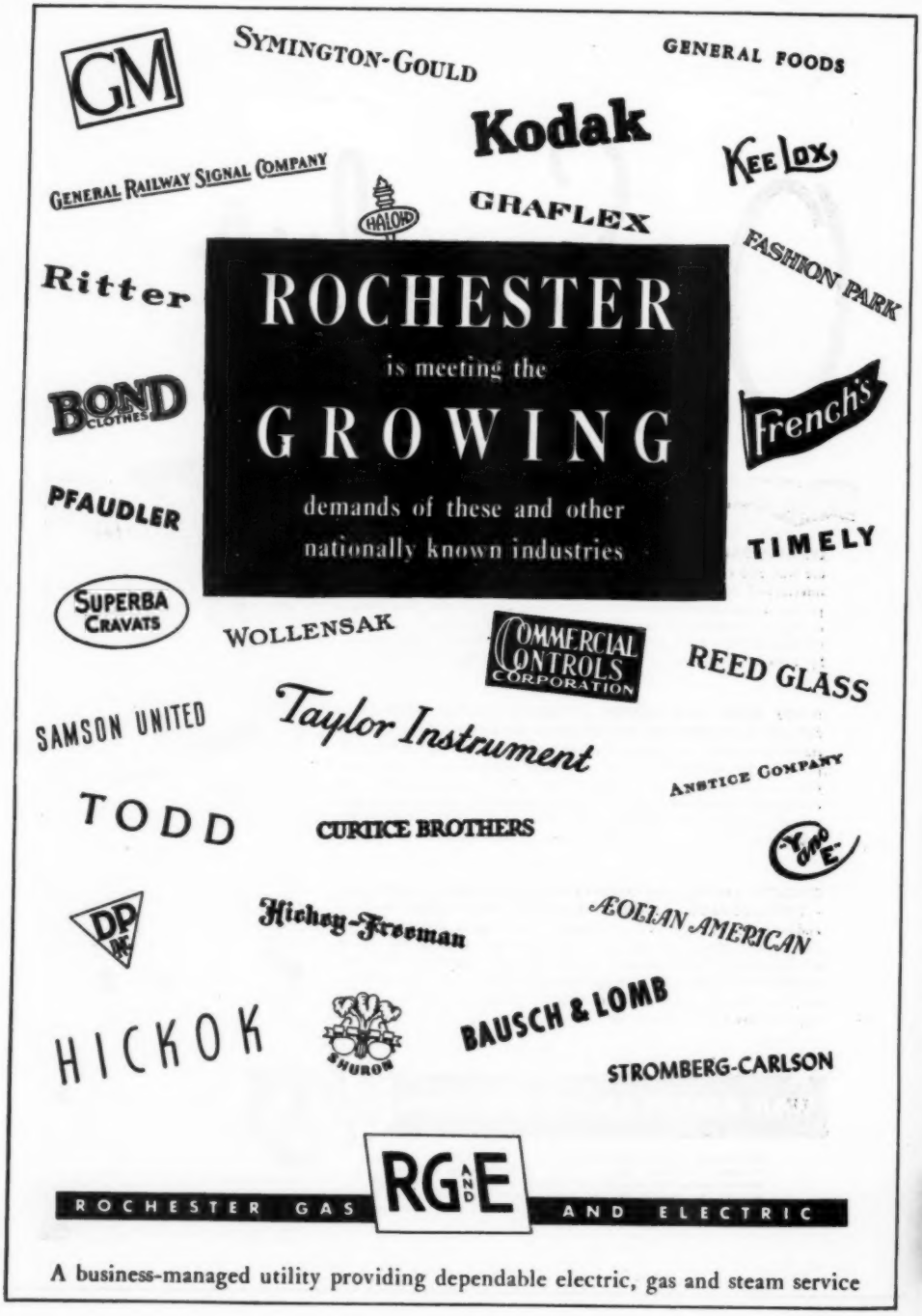
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AND ELECTRIC
A business-managed utility providing dependable electric, gas and steam service

JOHNNY CAPACITOR'S KILOVAR ECONOMICS #3

SHORT-HAUL KILOVARS CUT YOUR INVESTMENT FOR KW TRANSPORT

JOHNNY SAYS:

"Every kilovar that goes up through your step-*up* transformers may come *down* THREE TIMES!"

Why use your "de luxe" transportation facilities to step-UP and carry kilovars through your high tension lines, DOWN to your sub-transmission lines, DOWN to your distribution lines, and finally, DOWN to the point of consumption.

On-the-spot kilovar generation by capacitors rids your lines of transported kilovars. This makes room for increased kilowatt capacity—equivalent to as much as 20 per cent of your peak load* —and *effectively reduces transmission and distribution costs from the generator all the way out to the load.*

**Assumes 80% power factor operation.*

A General Electric specialist will be glad to work with you on the application of capacitors to your system. For further information ask your G-E representative or write to *Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*

THESE SYSTEMS ARE NOW TAKING ADVANTAGE OF CAPACITORS TO CUT INVESTMENT COSTS

Here are the names of companies, typical of the industry, which are now using capacitors as an important economic tool: New Orleans Public Service Inc., with capacitors up to 20 per cent of its peak load; Tampa Electric Company—20%; Oklahoma Gas and Electric Company—20%; Illinois Power Company—18%.

GENERAL ELECTRIC

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Exide POWER

EXIDES have the high voltage and capacity needed to meet all the storage battery requirements of public utility power stations. In many hundreds of stations they perform a multitude of duties—closing and tripping switch-gear, operating the control bus, supplying current for motor generators, motor converters, rotary converters or rectifiers, indicating lamps, etc. And in numerous installations they stand ready to take over, automatically, the supply of emergency lighting.

Exide makes several types of storage batteries for control bus operation. These batteries have earned the confidence of engineers everywhere, and their widespread use in public utilities is proof of their dependability, long-life and ease of maintenance. When you buy an Exide, you *Buy* to *Last*.

THE ELECTRIC STORAGE BATTERY CO., Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

EXIDES ARE DEPENDABLE FOR

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measured DEMAND

the direct basis of billing for fixed charges . .

0 2 4 6 8 10 12

Longer hours of ...ed operating efficiencies ... the present low price ...ur. However, unless ... further improved, ... will not permit ... at present low rates.

MEASURED DEMAND helps to solve this problem by encouraging your customers to improve their load factor. MEASURED DEMAND also provides the most direct basis of billing for fixed charges. An extensive line of Sangamo Demand Instruments is available to meet your specific needs FOR ALL CLASSES OF SERVICE.

Type JS with ... Demand Register

Sangamo Type JS ... meter with JG D... Register for measurement of singlephase ki... and kilowatt demand where a simple, ... and economical unit is required. The ... Demand Register can also be supplied s... for existing meters.

Type LC-2-P With LG Demand Register

Type JM3 combination ... and Lincoln watt demand meter for measurement of demand on singlephase circuits on the thermal principle. Type LC-2-P meter with LG Demand Register for measurement of demand on polyphase circuits.

SANGAMO ELECTRIC COMPANY
SPRINGFIELD • ILLINOIS

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THAT the service area of this company is receiving a considerable stimulus from the Southern trend of industry is strongly indicated by the marked increase in demands for its service in 1946 and the adding of 191 industrial and 506 commercial customers to its lines.

Although the company is in a favorable position in having adequate generating facilities for all of its power requirements it has projected a five-year construction program to further meet and encourage this growing demand and to generally improve its service to its customers.

CENTRAL SOUTH CAROLINA IS GROWING

Principal Office: Columbia. Branch Offices at Batesburg, Johnston, Lexington, Saluda, and St. Matthews.

South Carolina Electric & Gas Company

"Give Me GMC ARMY WORKHORSE POWER"

Writes War Veteran Grant Sims

Here's a fellow who really knows truck engines. Official of an important motor freight line before the war, he spent 35 months overseas in command of a GMC-equipped mobile aircraft salvage unit. Today he is Superintendent of Maintenance for the Salt Lake Transfer Company.

"Those GMC military trucks with the '270' engine never let us down," Sims declares, "and I can say the same for the GMC commercial models we're using today. We have some pretty tough hauling in the inter-mountain region and the records show that GMC engines are most economical and reliable, requiring minimum maintenance."

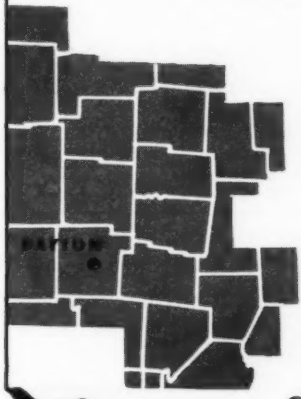
Wherever your hauling job, you can benefit by GMC's outstanding Service record. For every commercial model . . . light, medium or heavy duty . . . has an engine of the same basic design as the war-famed GMC "Army Workhorse."

GMC TRUCK & COACH DIVISION • GENERAL MOTORS CORPORATION

THE TRUCK OF VALUE GASOLINE • DIESEL

CONSTANT EXPANSION

proves our faith in SOUTHWESTERN OHIO



As business and industry forge ahead, as agriculture prospers, we build for the future in advance of progress.

OHIO

THE 24 counties of Southwestern Ohio served by The Dayton Power and Light Company comprise an area with a great future. Rich, fertile, agricultural lands—some of the most productive in the nation—support and balance large and small industrial cities and towns with diversified manufacturing enterprises shipping their products to the markets of the world.

Our confidence in the bright future of this area has resulted in constant expansion of power generating capacity in advance of increasing demands for service. This policy has had no small part in the rapid industrial and population growth of Southwestern Ohio. A new power plant with an initial capacity of 100,000 kw, now under construction will bring our company's total installed capacity up to 310,000 kw—reaffirming our faith in the future and in free enterprise as the best means of channelling the benefits of electricity to the homes, stores, factories and farms of Southwestern Ohio.

THE DAYTON POWER AND LIGHT COMPANY

PROFESSIONAL DIRECTORY

• This Directory is reserved for engineers, accountants, rate experts, consultants, and others equipped to serve utilities in all matters relating to rate questions, appraisals, valuations, special reports, investigations, financing, design, and construction.

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Complete Services for GAS and ELECTRIC Utilities
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Complete Plants, Additions or Installations . . . every detail geared to more profitable operation.
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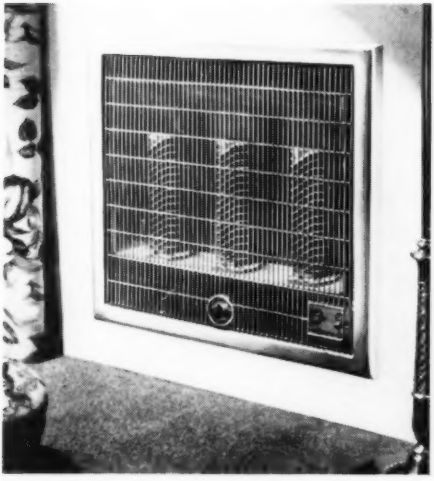

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